

General Review of the 1986 Census



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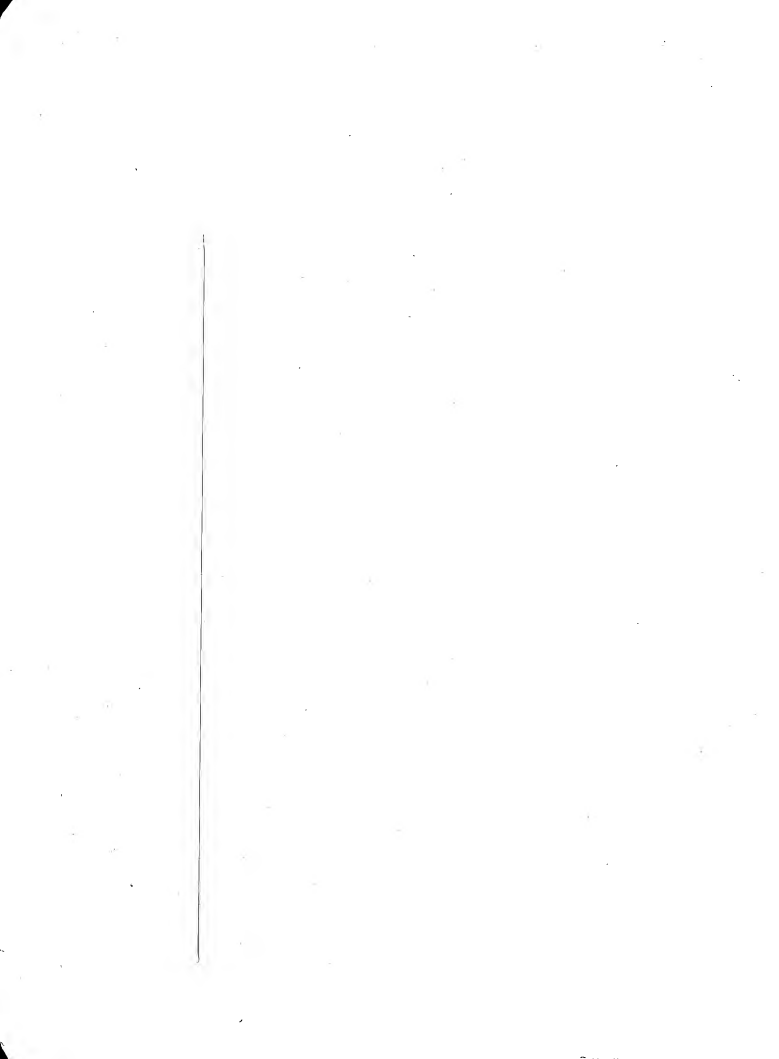
*Census
Recensement*

Canada 1986

Reference

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Canada 1986

Reference

General Review of the 1986 Census

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PREFACE

The first census on what was to become Canadian soil was conducted by Jean Talon in 1666. That census was limited to an enumeration of the colony's inhabitants and their age, sex, marital status and occupation. Some 320 years later, the Census of Canada has become the major source of information about Canadians and how they live.

The General Review of the 1986 Census of Canada outlines the wide range of activities, spread over many years, involved in taking this statistical snapshot of the nation. The Review focuses on the planning, procedures and systems required to undertake and complete the census. In addition, particular attention is given to changes in the 1986 Census relative to the 1981 Census.

I would like to express my appreciation to all Canadians whose co-operation was essential to the successful completion of the 1986 Census of Canada.

Ivan P. Fellegi
Chief Statistician of Canada



FOREWORD

This publication was developed under the general direction of Doug Norris, Project Manager, Census Output. Marie Patry, Task Manager of Census Reference Products, was responsible for managing the actual production of the General Review of the 1986 Census.

The principal author and editor, Nancy Turner, also coordinated the day-to-day production activities. Others involved in research and writing parts of the text included Rick Burroughs, Shoakat Khaja, Joseph Norland, Christina Pleizier, Henry Pressel and Mark Wright. The production and editing team included Maureen Boisvenu, Nicole Charbonneau, Josée Dufresne, Line Fortin, Allan Forward and Louise Gagnon from Census Operations Division, as well as staff from the Communications Division.

Numerous subject-matter specialists at Statistics Canada, as well as Ed Hanis, an outside consultant, reviewed the document. Their comments were invaluable in developing the final text.



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1. INTRODUCTION AND HIGHLIGHTS

1.1 Objectives of this Review

This General Review of the 1986 Census of Canada outlines the wide range of activities involved in taking a statistical snapshot of the nation.

Conducting a national census is a very complex undertaking. Statistics Canada must be in touch with every household and resident in the nation on Census Day (which was June 3, for the 1986 Census). The raw data collected on or shortly after Census Day must then be checked and processed into usable publications and information services within a reasonable period of time. User consultations and planning for the 1986 Census started in April 1982. The resultant products began to be released by Statistics Canada (STC) in July 1987. Publication of all planned products is expected to be completed in 1990.

This Review focuses on the planning, procedures and systems required to undertake and complete this multi-year information process from start to finish. In addition, particular attention is given to changes and improvements in the 1986 Census (relative to the 1981 Census) and to special issues that were addressed.

This Review complements two other general reference documents published by Statistics Canada on the 1986 Census: the **Census Dictionary** (Catalogue 99-101E) and the **1986 Census Handbook** (Catalogue 99-104E). The Dictionary provides definitions of the socio-economic variables measured and the geographic dimensions of the 1986 Census. The Handbook provides a history of the census, a detailed discussion of the 1986 Census questions, and information on other selected topics.

It is hoped that all three reference documents will help users understand and correctly interpret the 1986 Census data.

1.2 Scope and Uses of the 1986 Census

The 1986 Census is the sixteenth national Census of Canada since Confederation. The Census of Canada is the most extensive statistical collection undertaken by Statistics Canada (STC). The 1986 Census consisted of the Census of Population as well as the Census of Agriculture. The former collected social, demographic and economic information on every man, woman and child living in Canada. The latter collected information on Canada's farms, ranches and other agricultural holdings.

Chapters 2 through 8 of this Review discuss census-taking activities for the Census of Population. The 1986 Census of Agriculture is reviewed separately in Chapter 9. This organization allows for a simpler discussion of systems and procedures, which in many respects were shared by both information processes. The procedural linkages between the Census of Agriculture and the Census of Population are depicted in Figure 1.

The census plays a central role in the Canadian statistical system. It is the most important source of data for small areas (e.g., municipalities) and subgroups of the population (e.g., aboriginal peoples, immigrants, single-parent families). Census data are essential for planning the location and size of schools, health care facilities and fire halls, for developing educational programs, and for doing market research as well as for planning many other activities.

Census data are also essential for designing and maintaining the accuracy of other Statistics Canada programs and surveys, for example, monthly employment and unemployment statistics, annual population estimates (used in allocating billions of dollars between federal, provincial and municipal governments), family income and expenditure estimates and agriculture production estimates.

The scope of the censuses conducted since Confederation is presented in Figure 2, which summarizes the census questions asked since 1871.

1.3 **First Full-scale, Mid-decade Census of Canada**

The 1986 Census was the first comprehensive mid-decade census ever conducted in Canada. Statistics Canada is required by law to conduct censuses of population at five-year intervals in the years ending in 1 or 6. Prior to the 1986 Census, Canada's quinquennial censuses (i.e. for years ending with a 6) have covered fewer subjects than the decennial censuses (i.e. for years ending in 1).

Because of significant socio-economic changes brought about by a recession since the decennial 1981 Census, users judged that the limited scope of a quinquennial census would not be adequate for the 1986 Census. Under these circumstances, only a full-scale census could provide sufficient detail for planning and analysis until 1993 (when 1991 Census data would be available).

To reduce costs, the scope and procedures of a full-scale 1986 Census were to be a repetition of the 1981 Census. Only changes that would result in cost savings would be considered. Thus, at the outset, STC was faced with the challenge of expanding the content of a quinquennial census while reducing costs.

1.4 **Fiscal Restraint, Cancellation and Reinstatement of the 1986 Census**

Census activities were well under way when everything came to a halt on November 8, 1984. In keeping with the federal government's commitment to reduce expenditures, the census was cancelled. However, concerns were raised by a variety of data users, and the decision to cancel the census was rescinded a month later.

One of the principal reasons for reinstating the 1986 Census was that no cost-effective alternative

sources of the same data exist. This observation was emphasized repeatedly by the many private sector and other data users who strongly urged the reinstatement of the 1986 Census.

Planning and procedural activities were resumed and the census was conducted on June 3, 1986, as originally scheduled.

1.5 **\$100 Million Reduction in Costs**

As a condition of reinstatement, Statistics Canada was asked to develop and implement a plan to carry out a comprehensive 1986 Census and still achieve \$100 million in cost savings over a five-year period.

To achieve these savings, while expanding to a full-scale mid-decade census, plans were revised and a number of specific measures undertaken.

Twenty-five thousand temporary census jobs were financed and provided to students and youth under the Federal Student/Youth Employment Program.

STC increased its efficiency by relying upon and extending the systems and methods developed for the 1981 Census. Though some questions were added, some deleted, and some revised, the questionnaire design developed for 1981 was used for 1986. Publicity was curtailed, paid advertising eliminated, and voluntary communication channels developed to promote public support and response. Data collection methods were modified to improve efficiency.

One of the most far-reaching fiscal measures was to increase revenue from the sale of statistical outputs. A substantial portion of information products and services was placed on a full cost recovery footing. More emphasis has been placed on marketing by promoting awareness of census information products and services and by reducing products and services with limited demand.

1.6 Revised and Improved Questionnaire

Though under exceptional fiscal constraint, STC nonetheless further developed and refined the content of the census questionnaire for 1986, largely in consultation with major users.

Three new questions were added to address high priority information requirements. These questions related to aboriginal status (addressed to all respondents), disabilities (addressed to a sample of one in five), and the respondent's major field of study in school (addressed to a sample of one in five). Seven questions asked in 1981 were omitted because they were judged by users to be of lower priority. Eliminating them also reduced costs and response burden.

1.7 Improved Communications With Respondents

1.7.1 Bilingual Services

The 1986 Census broke new ground in enabling Canadians to complete the questionnaires in the official language of their choice. For the first time, the short form questionnaire (2A), which went to 80% of all households, was bilingual. In addition, modified procedures ensured that, in all areas of Canada, the long form (2B) was delivered in the respondent's preferred official language. Where the language preference could not be determined, both English and French versions were left. The expanded bilingual service increased costs by about \$1 million, considerably less than 1% of total census costs.

1.7.2 Multilingual Explanation of the Census

The census package was revised to include reasons why each question was asked. These reasons along with other selected materials were translated into 33 languages to assist with the enumeration of persons who did not speak either of the official languages.

1.7.3 Appeal to Aboriginal Respondents

Special measures, including publicity, improved collection methods and data quality control, as well as a new question on aboriginal status, were undertaken to reach Canada's aboriginal peoples.

1.8 Continuation of Co-operation With Revenue Canada Taxation Centres

The successful arrangement with Revenue Canada Taxation for using its Regional Centres (facilities, personnel, and computer equipment) for data entry of census returns for the 1981 Census was repeated for 1986. All parties found that the co-operative arrangement worked well for the 1986 Census, and should be repeated in the future.

1.9 Confidentiality

Completion of a census questionnaire is obligatory under the Statistics Act. Ever since the first Statistics Act in 1918, Parliament has recognized the importance of census information by imposing an obligation to complete the questionnaire.

The same act, however, imposes an obligation on STC to maintain the confidentiality of the information provided by the respondents, and calls for severe penalties for employees who break the law. Not since the agency was founded in 1918, however, has an employee ever been charged with, let alone convicted of, a breach of confidentiality under the act. The importance of maintaining confidentiality is so well recognized that even the courts and the new Canadian Security Intelligence Service cannot obtain access to census or other data collected under the Statistics Act. Given the recognized importance of census data, and the protection of its confidentiality, very few people fail to comply with the legal requirement to complete the questionnaire.

Figure 1. 1986 CENSUS OF CANADA

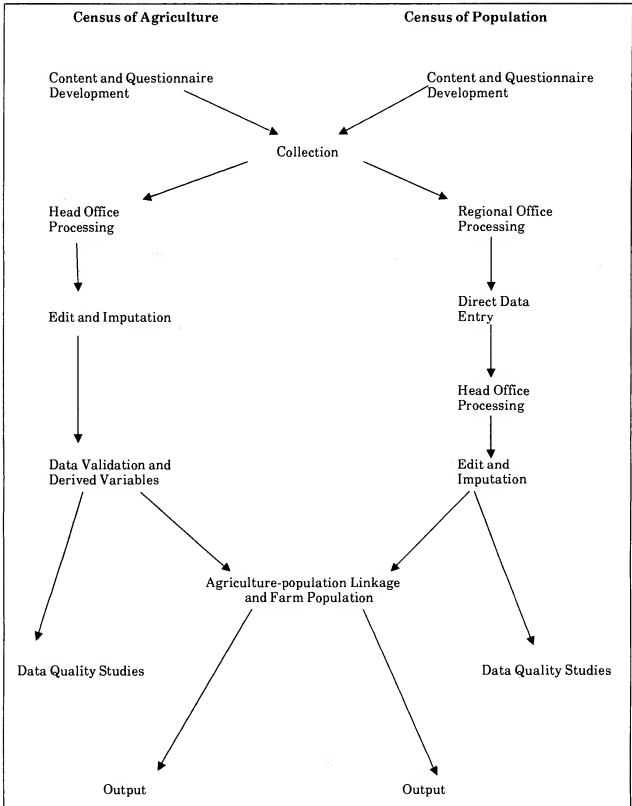


Figure 2. CENSUS QUESTIONS SINCE CONFEDERATION

		First time in census (before 1961)	1961	1966	1971	1976	1981	1986
Demographic Characteristics								
- Name	1871		X	X	X	X	X	X
- Relationship to reference person	1891		X	X	X	X	X	X
- Sex	1871		X	X	X	X	X	X
- Marital status	1871		X	X	X	X	X	X
- Date of birth	1871		X	X	X	X	X	X
- Place of residence five years ago	1941		X	-	X	X	X	X
- Number of moves since previous census	-		-	-	X	-	-	-
- Date of first marriage	1941		X	-	X	-	X	-
- Fertility	1941		X	-	X	-	X	-
Ethno-cultural and Language								
- Mother tongue	1901		X	-	X	X	X	X
- Home language	-		-	-	X	-	X	X
- Knowledge of official languages	1901		X	-	X	-	X	X
- Place of birth	1871		X	-	X	-	X	X
- Place of birth of parents	1891		-	-	X	-	-	-
- Period/year of immigration	1901		X	-	X	-	X	X
- Citizenship	1901		X	-	X	-	X	X
- Ethnic origin	1871		X	-	X	-	X	X
- Aboriginal status	-		-	-	-	-	-	X
- Religion	1871		X	-	X	-	X	-
Schooling								
- School attendance	1871		X	-	X	X	X	-
- Highest grade of elementary or secondary	1941		X	-	X	X	X	X
- Years of postsecondary	-		-	-	X	X	X	X
- University degree or diploma	-		-	-	X	X	X	X
- Completion of full-time vocational course (3 months or more)	-		-	-	X	-	-	-
- Province of elementary or secondary (or outside Canada)	-		-	-	X	-	-	-
- Major field of study	-		-	-	-	-	-	X
Labour Force Characteristics								
- Hours worked last week	1951		X	-	X	X	X	X
- Hours usually worked each week	1911		X	-	X	-	-	-
- When last worked	-		-	-	X	-	X	X
- Industry	1901		X	-	X	-	X	X
- Occupation	1871		X	-	X	-	X	X
- Class of worker	1891		X	-	X	-	X	X
- Place of work	-		-	-	X	-	X	X

Figure 2. CENSUS QUESTIONS SINCE CONFEDERATION - Continued

	First time in census (before 1961)	1961	1966	1971	1976	1981	1986
Labour Force Characteristics - Concluded							
- Weeks worked in previous year	1901	X	-	X	-	X	X
- Full-time/part-time work	-	-	-	X	-	X	X
Income							
- Total income	-	X	-	X	-	X	X
- Wages and salaries	1901	X	-	X	-	X	X
- Self-employment income ¹	-	X	-	X	-	X	X
- Income from government transfer payments	-	X	-	X	-	X	X
- Investment income	-	X	-	X	-	X	X
- Retirement pensions and other money income	-	X	-	X	-	X	X
Family and Household							
- Presence of mortgage	1941	X	-	X	-	X	X
- Who holds first mortgage	-	X	-	X	-	-	-
- Gross rent	1941	X	-	X	-	X	X
- Total cash rent	1941	X	-	X	-	X	X
- Payment of reduced rent (e.g., gov't. subsidized housing)	-	-	-	X	-	-	-
- Automobiles available for personal use	1941	X	-	X	-	-	-
- Vacation home ownership	-	-	-	X	-	-	-
- Major home appliances ²	1931	X	-	X	-	-	-
- Average payment for							
• water	-	X	-	X	-	X	X
• electricity	-	X	-	X	-	X	X
• gas	-	X	-	X	-	X	X
• oil, coal, wood, etc.	-	X	-	X	-	X	X
• mortgage	-	-	-	-	-	X	X
• property taxes	-	-	-	-	-	X	X
- Condominiums	-	-	-	-	-	X	X

1 Questions on net farm and non-farm self-employment income were asked in each of the indicated years except 1961, when only the latter was asked.

2 The appliances listed varied from one census to another. In 1931, respondents were asked if they owned a radio; the 1971 list included refrigerator, freezer, dishwasher, clothes dryer, and colour or black and white television.

Figure 2. CENSUS QUESTIONS SINCE CONFEDERATION - Concluded

	First time in census (before 1961)	1961	1966	1971	1976	1981	1986
Housing							
- Dwelling owned/rented	1941	X	X	X	X	X	X
- Value of dwelling	1941	X	-	X	-	X	X
- Structural type	1941	X	X	X	X	X	X
- Number of dwellings in the building	1941	-	-	X	-	-	-
- Number of rooms in the dwelling	1941	X	-	X	-	X	X
- Garage	-	X	-	X	-	-	-
- Piped running water in dwelling	1941	X	-	X	-	-	-
- Bath or shower	1941	X	-	X	-	-	-
- Use of flush toilet in building	1941	X	-	X	-	-	-
- Unoccupied dwelling, reason for	-	-	-	-	X	-	X
- Period of construction	1941	X	-	X	-	X	X
- Length of occupancy	1941	X	-	X	-	X	-
- Number of bedrooms	-	X	-	X	-	-	-
- Source of water supply	-	X	-	X	-	-	-
- Method of sewage disposal	-	X	-	X	-	-	-
- Principal type of heating equipment	1941	X	-	X	-	X	X
- Principal fuel used for							
• cooking	-	-	-	X	-	-	-
• heating	1941	X	-	X	-	X	X
• water heating	-	-	-	X	-	X	-
- Number of bathrooms	-	-	-	-	-	X	-
- Condition of dwelling	-	X	-	-	-	X	-
Other							
- Disability	-	-	-	-	-	-	X
- Wartime service	1951	X	-	X	-	-	-

2. PLANNING

Planning and conducting a national census is a complex task. Preparations begin years before the actual date of the census.

2.1 Background

The 1981 Census was an unprecedented success. The data were collected and processed within budget, released a year ahead of schedule, and immediately served a variety of users and uses. As part of the approval process for the 1981 Census, Statistics Canada was required to investigate the possibility of using administrative and survey sources to replace census data by 1986. However, it was concluded that no feasible alternative existed.

The 1980s were, however, a period of public sector fiscal restraint. This fiscal restraint resulted in the decision to repeat the successful 1981 Census in 1986, virtually unchanged. In the decision, the "least-disturbance principle" for both content and methodology was the guiding force.

2.2 Planning Organization

Two major planning elements were essential in the developmental process. The first was a deliberate and orderly investigation of users' needs for census data; the second was to co-ordinate a program to fulfil STC's mandate within budget constraints. A small group of individuals, known as the Census Management Team, conducted the planning.

Since Cabinet must approve census questions (see Section 3.3), Statistics Canada submitted to Cabinet a variety of options for the 1986 Census which

reflected the priority needs of federal departments, agencies and other users. These options were presented in the form of modules, or sets of questions, which could be grouped together in various combinations to form census options.

To determine the content, the Census Management Team reviewed and assessed the needs and requirements of over 200 users (full details of the consultation program are presented in Chapter 3). The program was concerned mainly with content issues, such as what information should be collected in the 1986 Census and what kind of tabulations should be prepared.

The results of the consultation process were then used to help determine a range of alternative census options in terms of cost (see Section 11.3 for further details), content and response burden. It is important to note that an overwhelming majority of data users emphasized the great importance of the kind of data available only through a census. This strongly reaffirmed the initial decision that a full census in 1986 was required.

2.3 Planning Assumptions

As stated previously, planning for the 1986 Census was based on the working assumption that the 1981 Census would be repeated virtually unchanged.

The 1981 Census procedures and decisions thus became the guiding assumptions; cost estimates were based on the "known" 1981 cost elements, adjusted for inflation and for increases or decreases in population and households by geographic area. Only those items expected to fall short of 1986 objectives were modified in terms of coverage, quality, timeliness and costs. Changes were allowed only where the costs of research, testing and redevelopment would be more than offset by savings (costs would include all core salaries, overhead and other incremental costs). To aid in developing plans for 1986, it was important that 1981 be evaluated to measure success in achieving its objectives.

It was assumed that the overall environment would be the same as in 1981, namely: an abundant labour supply and the availability of Revenue Canada Taxation (RCT) staff; temporary staff hired at the same levels as for 1981 for a period of less than six months; the availability of RCT facilities and computers for processing a greater workload based on population growth; fully documented 1981 systems and procedures to minimize 1986 development; comparable demand by users for data products and services; and free publicity through both private and public channels.

2.4 Developing the Program

In August 1983, a discussion paper containing plans for the 1986 Census was prepared. In the fall of the same year, a planning framework for the 1986 Census project structure was prepared. The planning process was divided into stages: strategic, tactical, and operational planning, implementation (development, testing, production); monitoring of the process and evaluation of results. The latter stages dealt directly with the results achieved by the planning process (described in Chapters 4 to 11).

Strategic Planning was completed by senior census management. This stage involved the identification of content, the establishment of major milestones (e.g., Census Day, release dates), and the identification of quality levels.

Tactical Planning was completed by the Census Manager and Project Managers. Their objective was to establish the best way to achieve the goals identified in the strategy, prepare a process flow diagram, expand major milestones, identify project structure and define projects, tasks and corresponding budgets.

Operational Planning: The 1986 operating procedures were to be the same as in 1981. As a result, the management system once again comprised two structures, one being the Financial Organization Structure (FOS) which allocated and controlled resources (see Section 11.3), while the 'Project Management Structure' (PMS) organized and managed the resources to attain the program objectives. The previous two censuses were managed this way as will be the 1991 Census.

Various project teams were established within the census organization. These teams were usually composed of a small group of people with different backgrounds, skills and knowledge. They were drawn from various areas of the organization and worked together on a specific and definite task. This structure ensured the most timely and efficient use of available human and budgetary resources in both planning and completing the 1986 Census.

A project manager was identified for each component (project) of the census (e.g., collection, processing, output, geography). The projects are presented in Figure 3. Each project was usually divided into tasks, headed by Task Managers (TM). Large tasks were subdivided into sub-tasks headed by Sub-task Managers (STM). Project Managers met monthly and prepared status reports for the Census Manager who co-ordinated not only the planning process, but also the implementation of the census.

Operational planning was completed by the designated project, task and sub-task managers. Project and task frameworks were defined in terms of objectives and scope, structure, phases, operational milestones and administration. The teams were then integrated and initial planning schedules, performance standards and costs plans determined (see Section 11.3 for details).

Figure 3. 1986 CENSUS - RESPONSIBILITY CHART

<div> <div>1986 Census Project (A. Martin)</div> <div>Project (Manager)</div> <div>Division (Director)</div> </div>		Content Determination (E.T. Pryor)	Geography (R. Bradley)	Data Capture (B. Laroche)	Data Quality (R. Carter)	Output (D. Norris)	Public Communication (D. Newson)	Content Series (I. Macredie)	Oper. Planning & Integration (J. Kennedy)	Aboriginal Program (A. Martin)	Marketing (D. Newson)	General
1. Census & Demog. Statistics Branch Office (E.T. Pryor, DG)		R										
2. 1986 Census Manager's Office (A. Martin, CM)							P		R	R	P	
3. Census Operations Division (B. Laroche)		S		R	P	R		P	P		P	
4. Survey Operations Division (M. Coutts)			P	P	P					P		
5. Geography Division (D.R. Bradley)			R			P		P	P	P		
6. Demography Division (A. Romanuc)		P		P	P	P		P	P	P		
7. Housing, Family & Social Statistics (G. Priest)		P		P	P	P		P	P	P		
8. Labour & Household Surveys (I. Macredie)		P		P	P	P		R	P	P		
9. Regional Offices (8) (7 Regional Directors)			P	P	P		P			P	P	
10. Communications Division (D. Newson, Assist. Dir.)							R		P	P	R	
11. Personnel Operations (M. Cuerrier)				P								
12. Publications Division (J. Gagnon)				S		P		P			P	
13. Social Survey Methods (A. Winkworth)			P	P	R	P			P	P		
14. Informatics Services & Development (M. Podehl)			S	S	S	S						
15. Main Computer Centre (J. Moore)			S	S	S	S		S				
16. Departmental Secretariat (J. Morin)		L		L			L				L	L
17. International and Professional Relations (B. Prigly)												L
18. Operational Planning & Programming (R. Gross)									P			
19. User Advisory Services (W. Smith, Coordinator)						P	P				P	P

R: Responsible Division - Responsibility for budgeting, planning and managing the process as well as providing expertise.

P: Participating Division - Provides know-how and work force for specific activities and contributes to the general conduct of the operation.

S: Service Division - Provides services on a contractual basis to the project.

L: Liaison Role - Liaise with either Central Agencies and/or foreign organizations.

2.5 Documentation

Documentation for the 1986 Census was kept in the 1986 Census Management Book. This book contained such essentials as a census overview; planning assumptions in general and by project and task; a financial section; a description of the organizational activity structures (description of projects, tasks and sub-tasks); and a description of the responsibilities of the Census Manager's staff which includes the integrated plans and milestones.

2.6 Cancellation and Reinstatement of the 1986 Census

The national 1986 Census, approved by the government in June 1984, was subsequently cancelled in November 1984 as one of the measures announced by the Minister of Finance in his November economic statement. Cancellation was expected to realize savings of \$100 million. It was intended to limit the 1986 Census to minimal constitutional requirements, i.e. a census of Manitoba and Saskatchewan. Planning of the comprehensive census ceased and was directed towards preparing for a "mini-census".

The cancellation of the 1986 Census caused much public concern expressed through the media and through letters to the Prime Minister, the Minister responsible for STC, and the Chief Statistician. In general, the range of media reaction ranged from disapproval to outright condemnation.

In addition to media reaction, there were letters from the academic community, from business associations, from municipal governments and from other interested groups asking that the census be reinstated. In all cases, the argument for reinstatement was based on the pressing need for current socio-economic data to meet Canada's needs in the next five years.

In late December 1984, the government announced the reinstatement of the 1986 Census. However, in keeping with the government's commitment to reduce expenditures, STC developed a number of cost-saving alternatives that would allow the agency to carry out the census and at the same time realize the required \$100 million savings.

In announcing reinstatement of the census, the Minister stressed that the 1986 Census of Population (and Census of Agriculture) were to be carried out by Statistics Canada within existing budgetary allocations over the next five years. Statistics Canada planned to achieve these savings by the following methods:

1. Close to one third of the savings would result from the government's decision to use \$30 million from the Federal Government Student/Youth Employment Program to hire students and youths for approximately 25,000 of the 45,000 jobs created by the census.
2. Another third of the savings would be obtained through increased efficiency within STC.
3. The remainder of the savings would be realized by an increased emphasis on cost recovery for the agency's outputs. Users would now have to assume a fairer share of the costs of publications and services. The agency would increase prices of the majority of its products to reflect this approach.

However, STC was to continue to ensure that information was readily available to the general public at no charge, through Canada's public library network and through the agency's own library and regional reference centres. These centres would also continue to provide information by phone to Canadians through User Advisory Services.

The Minister also directed that measures be taken, for the first time, to ensure that respondents would receive an explanation of why the census information was needed. As stated by the Minister, "Canadians have a right to know why these questions are asked. ... when they are aware of the many uses of the information, they will recognize the value and importance of the census." The Minister applauded the initiative of STC in developing a five-year program that continued to meet Canadians' needs for statistical information, but at the same time, provided the necessary savings from the 1986 Census budget.

It was within this new environment that plans for the census proceeded. Project Managers revised their original plans as required. Any repercussions that the cancellation and reinstatement had on the various projects are presented in their respective chapters of this document.

3. CONTENT DETERMINATION AND QUESTIONNAIRE DEVELOPMENT

In this chapter, two activities are covered: (a) content determination, i.e. the process to determine the topics to be covered in the 1986 Census and to formulate the required questions (including response categories and instructions to respondents); and (b) questionnaire development, i.e. the processes that culminated in the printing of the 1986 Census questionnaires and associated documents. The two activities were carried out under the direction of the 1986 Census Content Project and the 1986 Census Questionnaire Development and Production Task respectively.

Generally, the options available to Statistics Canada for a mid-decade census range from a minimal census, which merely complies with the statutory requirements, to a comprehensive census, such as the one taken in 1981. From the outset, however, time and resource constraints precluded any significant innovations to the 1986 Census content. Planning the content proceeded on the assumption that the 1981 Census would be "repeated virtually unchanged". It was acknowledged, however, that three types of changes would be necessary. First, additional questions (for example, a question on disabled persons) would be required to respond to current concerns in Canadian society. Second, certain questions (for example, the question on religion) should be considered for deletion, to keep response burden and total expenditure below the level of the 1981 Census. Third, revisions to existing questions (for example, the rewording of the question on marital status) should be given consideration, to improve the quality and usefulness of the data.

To determine the specific changes to be made, Statistics Canada launched a program in the spring of 1982, to compile input both from data users such as federal departments, academia and the business sector and from the

subject-matter experts within Statistics Canada. The two processes occurred simultaneously and interacted with each other. (The initial steps taken along these two routes are outlined separately in Sections 3.1 and 3.2, respectively.) In the fall of 1983, the two consultation processes culminated in the formulation of a questionnaire which was the basis for the census questionnaire subsequently approved by the Government of Canada. (See Section 3.3 for a look at the major events associated with this process and Figure 4 for a list of major milestones.)

The 1986 questionnaire content is discussed in detail in Sections 3.4 and 3.5. Questionnaire development and production, that is, the processes which transformed the content into the physical questionnaires and associated documents, are discussed in Section 3.6. The closing section of this chapter, Section 3.7, evaluates the processes discussed in the preceding sections.

3.1 User Input to Content Determination

More than four years before the 1986 Census Day, Statistics Canada began consultations with key data users about their most important information needs. As a first step, in the spring of 1982, Statistics Canada contracted a private consultant to develop "options for submission to Cabinet on the content of the 1986 Census". The consultant met with representatives of 15 federal government departments and agencies. As a result of these discussions, a paper entitled "**Overview of Federal Needs for 1986 Census Data**" was prepared in the fall of 1982.

The "**Overview**" was distributed to more than 200 users from federal agencies, provincial and municipal governments, selected businesses, academic researchers and marketing associations. These users were requested to provide their reactions to the paper

Figure 4. MAJOR MILESTONES OF THE 1986 CONTENT PROJECT

The Assistant Chief Statistician issued a memorandum outlining "1986 Census Working Assumptions"	March 1980
The Parliamentary Special Committee on the Disabled and Handicapped released a report entitled "OBSTACLES"	February 1981
Staff members began an "internal" evaluation of the 1981 Census; their reports were used for planning 1986 Census content	March 1982
Consultant contracted to canvass user's input regarding 1986 Census content	April 1982
Meetings began between Statistics Canada representatives and aboriginal groups	May 1982
Consultant prepared "OVERVIEW OF FEDERAL NEEDS FOR 1986 CENSUS DATA"; paper sent to over 200 key users as well as to senior managers in Statistics Canada. Feedback obtained by Spring 1983	November 1982
Parliamentary Special Committee on Visible Minorities in Canadian Society appointed	June 1983
Consultant prepared "PROPOSED 1986 CENSUS OPTIONS" as a result of feedback from users to "OVERVIEW" paper. "OPTIONS" distributed to relevant "external" users and "internal" subject-matter experts	June 1983
Federal-provincial Consultative Council on Statistical Policy met and discussed 1986 Census content on the basis of "OPTIONS"	July 1983
Subject-matter experts forwarded final recommendations on the wording of proposed 1986 Census questions	August 1983
Statistics Canada conducted the first part of the Canadian Health & Disability Survey (CHDS); second part conducted June 1984	October 1983
Consultant prepared "DISCUSSION PAPER - PLANS FOR 1986 CENSUS"	November 1983
Minister of Supply and Services presented "Memorandum to Cabinet" (including proposed 1986 questions) to the Government of Canada	March 1984
The Special Committee on Visible Minorities in Canadian Society issues "EQUALITY NOW!"	March 1984
Cabinet approved the census content and questions, requiring, however, that the ethnic question be altered to identify visible minorities	April 1984
Representatives from the pertinent Federal Departments met to discuss the census questions on visible minorities and aboriginal peoples	April 1984
Cabinet approved final wording of the 1986 questionnaire	May 1984
First gazetting of the 1986 Census	July 1984
1986 Census cancelled	November 8, 1984
1986 Census reinstated	December 21, 1984
Re-gazetting of revised 1986 Census	July 1985

and to express their views on data needs from the 1986 Census. Users were also asked to identify specifically those 1981 Census questions that represented their highest priority, as well as those that were most expendable. By the spring of 1983, some 125 users had responded.

While these consultations with outside users were ongoing, Statistics Canada also began an internal evaluation of the content and wording of the 1981 Census questionnaire. Subject-matter experts within STC provided recommendations for the inclusion or exclusion of certain questions, along with proposals for alternative forms of question wording, to improve data quality (see Section 3.2).

On the basis of both the external user input and the internal evaluation, two content options for the 1986 Census were developed. The first proposed an abridged 1981 Census, with minimal changes in selected questions: of the 46 1981 questions, 12 would be deleted and seven others modified. The second option recommended a somewhat more comprehensive census, and incorporated several proposals for the collection of new data that had widespread user support. It also recommended a series of improvements to the 1981 questionnaire. In June 1983, the two options were summarized in the paper **"Proposed 1986 Census Options"**, which was distributed to selected users. Recipients of the paper were requested to submit comments. The paper was also discussed in a meeting of the Federal-provincial Consultative Council on Statistical Policy, held in July 1983. During the summer of 1983, the 1986 Census Content team reviewed the comments received from the recipients of the paper and the issues raised during the federal-provincial meeting. This review, together with results from the internal evaluation, served as the basis for a third paper **"Discussion Paper - Plans for the 1986 Census"** (see Section 3.3).

Generally, the user consultation process showed that the variables receiving the most substantial support from non-federal users were also those with widespread support from federal agency users. As might be expected, however, there were exceptions. Data on some variables (for example, migration and place of work), identified as being important to selected non-federal users, were of a low priority to federal agencies. Conversely, data on other variables (for example, housing) that were of limited interest to provincial and private sector users, were of much greater interest to federal users. The consultations also revealed user demand for data over and above those collected in the 1981 Census was modest. Rather, the requirements were for a census similar to that of 1981, with improvements in some areas, such as the rewording of certain questions to increase data reliability.

3.2

"Internal" Input to Content Determination

Prior to the release of the 1981 Census data, which took place between the spring of 1982 and the spring of 1983, subject-matter specialists within Statistics Canada conducted an evaluation of the 1981 Census, to identify anomalies and problems in the data. This evaluation resulted in a series of reports on the various components of the 1981 Census. In preparation for the 1986 Census, these reports were reviewed to identify what changes to the 1981 questionnaires would be required if the 1986 Census attempted to repeat the 1981 content. This review suggested that only a few minor changes would be necessary.

The **"Overview"** paper (see Section 3.1) was distributed to all Assistant Chief Statisticians, Directors General and Directors within Statistics Canada. These senior managers were asked to use the paper as a bench-mark for expressing their views on the content of the 1986 Census. Their input was forwarded by the spring of 1983, coincidental with the input received from the outside users.

At this point, a number of options were being developed by Statistics Canada as to census content. The options were discussed with the Chief Statistician and with the senior management of the Social Statistics Field. On the basis of these discussions and feedback from outside users, the consultant prepared a paper entitled "**Proposed 1986 Census Options**" in June 1983 (see Section 3.1). This paper was tabled at a meeting at which the 1986 Census Manager and the Directors of the subject-matter areas (and/or their representatives) met to discuss the 1986 Census content. At this meeting, the subject-matter divisions were instructed to prepare position papers on alternatives to the wording of the proposed 1986 questions, the response categories, and the instructions to respondents. In addition, the subject-matter experts were asked to state the advantages and disadvantages of each alternative, along with their preferred alternative and the rationale for the preference. An example of the alternatives prepared for the heating/fuel energy question is shown in Figure 6.

By August 1983, the recommendations, along with input from outside users, served as the basis for a third paper, "**Discussion Paper - Plans for the 1986 Census**" (Section 3.3).

3.3 **Gazetting and Re-gazetting of the 1986 Census**

The "**Discussion Paper - Plans for the 1986 Census**" presented 19 optional modules: 16 content modules dealing with census questions and three operational modules providing alternatives for bilingual services. The paper described the modules, assessed their usefulness in terms of the requirements of users and

respondents, and specified the estimated cost of including a particular module in the 1986 Census. The paper was distributed for commentary to key data users and to senior management and subject-matter areas within Statistics Canada. (For a selected list of users who commented on the paper, see Figure 6.) On the basis of the reactions received, 13 of the 16 content modules and one of the three operational modules were recommended for Cabinet approval. These modules may be summarized as follows (see also Figure 7):

Module 1 - Basic Census Data - 100% enumeration basis

Module 1 consisted of questions on basic demographic and household characteristics (e.g., age, sex and mother tongue) and the "coverage question" designed to ensure complete enumeration within each household. Among other things, the basic census data module permits the determination of population estimates for federal-provincial budgetary transfers.

Module 2 - Labour Market - 20% sample basis

This module referred to the economic characteristics of the population (e.g., participation in the labour force, place of work, occupation, industry and income). The census provides the only comprehensive source of data on the detailed industrial and occupational characteristics of the labour force. In addition, data on income, combined with basic demographic data, provide information needed to identify target markets, low income groups, and measure changing consumer demand and income which serves as the basis for developing new products and services.

Figure 5. EXAMPLE OF "INTERNAL" INPUT: OPTIONS FOR THE 1986 CENSUS QUESTION ON HEATING FUEL/ENERGY

Option 1 - 1981 Census Question

Which fuel is used most for heating this dwelling?

<input type="checkbox"/> Oil or kerosene	<input type="checkbox"/> Wood
<input type="checkbox"/> Piped gas, e.g., natural gas	<input type="checkbox"/> Coal or coke
<input type="checkbox"/> Bottled gas, e.g., propane	<input type="checkbox"/> Other fuel
<input type="checkbox"/> Electricity	

Option 2 - Proposed 1986 Alternative I

Which fuel(s)/energy is used by this main heating system?

Mark as many boxes as apply

<input type="checkbox"/> Oil or kerosene
<input type="checkbox"/> Piped gas, e.g., natural gas
<input type="checkbox"/> Bottled gas, e.g., propane
<input type="checkbox"/> Electricity (do not mark this box if electricity used only to operate equipment and controls)
<input type="checkbox"/> Wood
<input type="checkbox"/> Coal or Coke
Environmental energy, captured by:
<input type="checkbox"/> Heat pump
<input type="checkbox"/> Solar panels
<input type="checkbox"/> Other fuel/energy

Option 3 - Proposed 1986 Alternative II

Which fuel or sources of energy are used by the main heating systems marked in Question 17?
Mark as many boxes as apply

Fossil Fuels

<input type="checkbox"/> Oil or kerosene
<input type="checkbox"/> Piped gas, e.g., natural gas
<input type="checkbox"/> Bottled gas, e.g., propane
<input type="checkbox"/> Coal or coke

Renewable Fuels

<input type="checkbox"/> Electricity (do not mark this box if electricity is used <u>only</u> to operate controls or equipment)
<input type="checkbox"/> Heat transfer from heat pump
Heat transfer from solar panels

Other Fuel or Energy

<input type="checkbox"/> Other

Option 4 - Approved 1986 Census Question

Which fuel or energy is used **most** for heating this dwelling?

Mark one box only

<input type="checkbox"/> Piped gas, e.g., natural gas
<input type="checkbox"/> Bottled gas, e.g., propane
<input type="checkbox"/> Electricity only
<input type="checkbox"/> Electricity as the main source where more than one fuel/energy is used, e.g., electricity and oil
<input type="checkbox"/> Oil or kerosene
<input type="checkbox"/> Wood
<input type="checkbox"/> Coal or coke
<input type="checkbox"/> Other fuel or energy

Figure 6. SELECTED LIST OF CENSUS DATA USERS WHO COMMENTED ON SPECIFIC 1986 CENSUS MODULES

FEDERAL DEPARTMENTS AND AGENCIES

Agriculture Canada
Canada Council
Canadian International Development Agency
Commissioner of Official Languages
Consumer and Corporate Affairs Canada
Economic Council of Canada
Energy, Mines and Resources Canada
Fisheries and Oceans
Indian and Northern Affairs Canada
Justice Canada, Department of
Social Development, Ministry of State for
National Defence, Department of
Privy Council Office
Public Works Canada
Revenue Canada - Customs
Royal Canadian Mounted Police

Secretary of State of Canada, The
Status of Women Canada
Transport Canada
Veterans Affairs Canada

Bank of Canada
Canada Mortgage and Housing Corporation
Chief Electoral Officer, Office of the
Communications, Department of
Correctional Service Canada
Employment and Immigration Canada
Federal-provincial Relations Office
Health and Welfare Canada
Industry Trade and Commerce
Labour Canada
Economic and Regional Development,
Ministry of State
Canada Post
Public Service Commission of Canada
Regional Economic Expansion, Department
of Revenue Canada - Taxation
Science and Technology Canada, Ministry
of State
Solicitor General Canada
Supply and Services Canada
Treasury Board of Canada

PROVINCIAL AND TERRITORIAL GOVERNMENTS

All 12 governments consulted

MUNICIPALITIES AND REGIONAL GOVERNMENTS

Durham, Ontario
Halton, Ontario
Oxford, Ontario
Toronto, Ontario
York, Ontario

Edmonton, Alberta
Ottawa-Carleton, Ontario
Peel, Ontario
Waterloo, Ontario

UNIVERSITY RESEARCHERS

Dalhousie University
University of New Brunswick
University of Toronto

University of Montréal
University of Regina

TRADE AND OTHER ASSOCIATIONS

Canadian Construction Association
Canadian Real Estate Association
HUDAC
Multi-Industry Committee on Statistics
Ontario Association of Planners
Roads and Transportation Association

Canadian Manufacturers Association
Electrical and Electronic
Manufacturers Association
Insurance Bureau of Canada
National Farmers' Union
Regional Information Systems Committee

HEALTH-RELATED ASSOCIATIONS

Canada Life and Health Insurance
Association
Canadian Mental Health Association

Canadian Co-ordinating Council on
Deafness
Canadian National Institute for Blind

**Figure 6. SELECTED LIST OF CENSUS DATA USERS WHO COMMENTED ON SPECIFIC
1986 CENSUS MODULES - Concluded**

Council for Disabled
Council on Deafness

Canadian Rehabilitation
Coalition of Provincial Organizations
of the Handicapped

BUSINESSES

Air Canada
Allstate Insurance
Banque Nationale du Canada
Caisses Populaires Desjardins
CP Air
Gallup
Imperial Tobacco
Print Measurement Bureau
Royal Trust
Towers

Alcan
Audit Bureau of Circulation
BC Telephone
Canada Trust
Clayton Research
Gardner Pinfold
ISL International Surveys
Royal Bank
Scotiabank

Figure 7. 1986 CONTENT MODULES AS RECOMMENDED IN "DISCUSSION PAPER - PLANS FOR THE 1986 CENSUS"

	<table><tr><th>MODULE 1</th></tr><tr><th>BASIC (100%)</th></tr><tr><td>1. Name 2. Relationship 3. Date of birth 4. Sex 5. Marital status 6. Mother tongue 8. Coverage</td></tr></table>	MODULE 1	BASIC (100%)	1. Name 2. Relationship 3. Date of birth 4. Sex 5. Marital status 6. Mother tongue 8. Coverage							
MODULE 1											
BASIC (100%)											
1. Name 2. Relationship 3. Date of birth 4. Sex 5. Marital status 6. Mother tongue 8. Coverage											
<table><tr><th>MODULE 2</th></tr><tr><th>LABOUR MARKET (20%)</th></tr><tr><td>25. Participation 26. When last worked 27. Industry 28. Place of Work 29. Occupation 30. Class of Worker 31. Weeks Worked 32. Income</td></tr></table>	MODULE 2	LABOUR MARKET (20%)	25. Participation 26. When last worked 27. Industry 28. Place of Work 29. Occupation 30. Class of Worker 31. Weeks Worked 32. Income	<table><tr><th>MODULE 3</th></tr><tr><th>EDUCATION I (20%)</th></tr><tr><td>21. Years of schooling 22. Degrees</td></tr></table>	MODULE 3	EDUCATION I (20%)	21. Years of schooling 22. Degrees	<table><tr><th>MODULE 4</th></tr><tr><th>EDUCATION II (20%)</th></tr><tr><td>23. Field of specialization</td></tr></table>	MODULE 4	EDUCATION II (20%)	23. Field of specialization
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<table><tr><th>MODULE 5</th></tr><tr><th>ABORIGINAL PEOPLES (100%)</th></tr><tr><td>7. Aboriginal peoples</td></tr></table>	MODULE 5	ABORIGINAL PEOPLES (100%)	7. Aboriginal peoples	<table><tr><th>MODULE 6</th></tr><tr><th>LANGUAGE (20%)</th></tr><tr><td>18. Home language 19. Official language</td></tr></table>	MODULE 6	LANGUAGE (20%)	18. Home language 19. Official language	<table><tr><th>MODULE 7</th></tr><tr><th>DISABILITY (20%)</th></tr><tr><td>20. Disability</td></tr></table>	MODULE 7	DISABILITY (20%)	20. Disability
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20. Disability											
<table><tr><th>MODULE 8</th></tr><tr><th>HOUSING I</th></tr><tr><td>9. Tenure (100%) 12. Heating equipment and energy source (20%) 13. Utilities and shelter costs (20%)</td></tr></table>	MODULE 8	HOUSING I	9. Tenure (100%) 12. Heating equipment and energy source (20%) 13. Utilities and shelter costs (20%)	<table><tr><th>MODULE 9</th></tr><tr><th>HOUSING II (20%)</th></tr><tr><td>10. Age of dwelling 11. Number of rooms</td></tr></table>	MODULE 9	HOUSING II (20%)	10. Age of dwelling 11. Number of rooms	<table><tr><th>MODULE 10</th></tr><tr><th>HOUSING III (100%)</th></tr><tr><td>Structural type (Enumerator coded)</td></tr></table>	MODULE 10	HOUSING III (100%)	Structural type (Enumerator coded)
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<table><tr><th>MODULE 11</th></tr><tr><th>CITIZENSHIP/IMMIGRATION (20%)</th></tr><tr><td>14. Place of birth 15. Citizenship 16. Year of immigration</td></tr></table>	MODULE 11	CITIZENSHIP/IMMIGRATION (20%)	14. Place of birth 15. Citizenship 16. Year of immigration	<table><tr><th>MODULE 12</th></tr><tr><th>ETHNICITY (20%)</th></tr><tr><td>17. Ethnicity</td></tr></table>	MODULE 12	ETHNICITY (20%)	17. Ethnicity	<table><tr><th>MODULE 13</th></tr><tr><th>MOBILITY (20%)</th></tr><tr><td>24. Mobility status</td></tr></table>	MODULE 13	MOBILITY (20%)	24. Mobility status
MODULE 11											
CITIZENSHIP/IMMIGRATION (20%)											
14. Place of birth 15. Citizenship 16. Year of immigration											
MODULE 12											
ETHNICITY (20%)											
17. Ethnicity											
MODULE 13											
MOBILITY (20%)											
24. Mobility status											

NOTES: (1) Question numbers correspond to those on the final 1986 questionnaire.
 (2) The modules are shown in the sequence presented in "Census Facts".

Legend: 100% - items proposed for the 100% enumeration questionnaire
 20% - items proposed for the 20% sample questionnaire

Module 3 - Education I - 20% sample basis

The first education module consisted of questions concerning the number of years of schooling that respondents completed in various types of institutions and the degrees, certificates or diplomas received from these institutions. Questions on the educational levels of the population received widespread support from data users. These data are used for analysing issues such as the transition from school to the labour market and the effectiveness of job-related training programs. Expenditures on education are of great concern to all levels of government.

Module 4 - Education II - 20% sample basis

The second education module concerned respondents' major field of study in postsecondary education. This new question responded to the need for more detailed educational data required for labour market forecasting and job training/retraining programs. (See also Section 3.5.2.)

Module 5 - Aboriginal Peoples - 100% enumeration basis

The aboriginal peoples module consisted of a new question designed to determine the number of aboriginal peoples in Canada. To meet the demand for detailed cross-classifications, particularly for small areas, this question was recommended for inclusion on a 100% basis. The "aboriginal question" was designed to provide information to governments planning programs directed at improving the social and academic status of the aboriginal peoples and to Native groups seeking such objectives as self-government. (See also Section 3.5.)

Module 6 - Language - 20% sample basis

Module 6 consisted of two questions dealing with language (i.e. language most often spoken at home and usage of Canada's official languages). These questions provide vital information for bilingualism programs. Combined with data on mother tongue (see Module 1), these questions may also be used to study language transfers among various groups. The data are of increasing use to market researchers, cultural groups, and the communications industry.

Module 7 - Disability - 20% sample basis ("screening question")

The disability module dealt with a new question designed to identify disabled persons. In view of the increasing demand for data on the disabled, this "screening question" was to be followed by a comprehensive postcensal survey. (See also Section 3.5.)

Module 8 - Housing I - 100% enumeration and 20% sample basis

Module 8 included a group of questions dealing with housing issues. The question on tenure was proposed for the 100% enumeration, whereas the questions on heating equipment and energy source, as well as on utilities and shelter costs were recommended for the 20% sample. These questions provide information on home ownership, energy utilization and housing costs (e.g., rent and mortgage payments).

Module 9 - Housing II - 20% sample basis

The second housing module contained additional housing questions, related to age of dwelling, number of rooms in the dwelling and the need for repairs. The questions provide basic information on housing stock in Canada. In particular, the question on age of dwelling provides an indicator useful in programs aimed at home renovation and energy conservation.

Module 10 - Housing III - 100% enumeration basis

The items in this module, dealing with structural type of dwelling, provide bench-mark data on Canada's housing stock by type (e.g., single-detached, apartment in a structure over five storeys). In 1986, this question was to be coded by the Census Representative because evidence from past censuses suggested that respondents had difficulty in correctly categorizing the wide variety of structural types in existence.

Module 11 - Citizenship/Immigration - 20% sample basis

Module 11 referred to questions dealing with immigration issues (e.g., citizenship and place of birth). These questions are required for the development of immigration policies and for analyzing the assimilation of immigrants into Canadian society. The data are useful in such areas as election planning and programs for potential new citizens.

Module 12 - Ethnicity - 20% sample basis

The question on ethnicity provides much-needed information on Canada's multicultural society and on the origins of Canada's population. The data are used extensively by various ethnic organizations. (See also Section 3.5.)

Module 13 - Mobility - 20% sample basis

Module 13 consisted of a question designed to measure the mobility of the population over the five-year period between the 1981 and 1986 Censuses. It provided input for the preparation of intercensal population estimates and projections, data on the availability and movement of skilled labour, and an understanding of population redistribution.

(See Appendix B for the 1986 questionnaire and guide, where the rationale for the questions is explained further.)

The three content modules not recommended for inclusion in the submission to Cabinet were:

- (i) a module of the 1981 questions that did not receive sufficient support from users (e.g., questions on length of dwelling occupancy, on nuptiality and on religion);
- (ii) a module dealing exclusively with place of work; and
- (iii) an alternative module to Module 5 concerning aboriginal peoples.

In all, the recommendations proposed nine questions for the 100% enumeration questionnaire and 42 questions for the 20% sample questionnaire. Additionally, the recommendations selected one of the three operational modules that dealt with bilingual services (see Section 3.6).

Using the discussion paper as a source, a Memorandum to Cabinet was prepared. The Memorandum, along with the recommended wordings of the 1986 Census questions, were presented to Cabinet by the Minister of Supply and

Services in March 1984. In April 1984, Cabinet approved both the Memorandum and the attached questions, with the provision that the ethnicity question be worded in such a way as to address the issue of identifying visible minorities (see Section 3.5).

The wording of the proposed 1986 Census questionnaire was finalized in May 1984 and sent to the Privy Council Office where the Order in Council for the 1986 Census of Population was prepared. The Order in Council was approved by the Governor General in Council in June 1984 and published in the Canada Gazette in July 1984.

Then as already stated, in early November of 1984, the federal government, in an effort to reduce expenditures, cancelled the 1986 Census. Attention was then focussed on the statutory requirement to hold a mid-decade census in Manitoba and Saskatchewan. However, as a result of the support voiced by users of census data in both the private and the public sectors, the 1986 Census was reinstated on December 21, 1984.

The cancellation and reinstatement of the census necessitated a revision of the questionnaire initially gazetted in July 1984. Accordingly, a revised questionnaire was drafted and gazetted in July 1985. The questionnaire designed for 100% enumeration remained essentially unaltered. In the sample questionnaire, two items (on home repairs and fuel for heating water) were deleted. The remaining items were reorganized into 32 questions.

3.4 The 1986 Census Questions

Upon final approval of the 1986 Census content, four questionnaires were prepared for use by respondents. The short questionnaire (Form 2A) was bilingual. The long questionnaire (Form 2B) was given to households in the official language of their choice when the Census Representative was able to make contact, and in both official languages when contact did not occur.

Form 2A - Short Questionnaire

The short questionnaire was used to enumerate four fifths of all private households in Canada, and contained the following nine questions:

<u>Question No.</u>	<u>Content</u>
1	Name
2	Relationship to Person 1
3	Date of birth
4	Sex
5	Marital status
6	Mother tongue
7	Aboriginal status
8	Person responsible for household payments and "coverage"
9	Tenure (dwelling owned or rented)

Form 2A provided enough space for up to six household members; additional questionnaires were used for larger households.

Form 2B - Long Questionnaire

The long questionnaire used the nine questions on Form 2A and added 23 others. One of every five private households received Form 2B, except in northern and remote areas where it was distributed to all households to improve the reliability of data for populations too small to support sampling. (See Appendix B for a Form 2B.)

The additional 23 questions on Form 2B were:

<u>Question No.</u>	<u>Content</u>
10	Period of construction of dwelling
11	Number of rooms in dwelling
12	Main type of heating equipment and principal heating fuel
13	Payments for shelter, value of dwelling, condominiums
14	Place of birth
15	Citizenship
16	Year of immigration
17	Ethnic origin

<u>Question No.</u>	<u>Content</u>	<u>Other</u>
18	Home language	Another form was used to enumerate hospitals and jails (Form 1A). These institutions tend to have large temporary populations and for practical reasons enumeration was done from the institution's administrative records. Form 1A streamlined enumeration by collecting only one line of basic information for each temporary resident.
19	Ability to speak Canada's official languages	
20	Disability	
21	Years of schooling	
22	Degrees, certificates and diplomas	
23	Major field of study	
24	Mobility (place of residence in 1981)	
25	Work in past week (hours, lay-off, job search, etc.)	
26	When last worked	
27	Industry (employer, name of firm, kind of business)	
28	Place of work	3.5 Changes since the 1981 Census Questionnaire For reasons already stated, the basic framework of the 1986 Census called for a repetition of the 1981 Census with only minimal modifications. Both the internal review of the 1981 Census and the consultations with external users concerning the content of the 1986 Census identified problems that could be overcome by modifying the 1981 questionnaire and its accompanying guide. The resultant changes collectively illustrate the efforts of Statistics Canada to improve the quality of the 1986 data. Those questions that were deleted or added in 1986 are presented in this section. Other changes made to question wordings and response categories are noted in detail in Appendix A. The 1986 and 1981 Census questionnaires and respective guides are also contained in Appendices B and C of this publication.
29	Occupation (type of work, most important duties)	
30	Class of worker (employee, self- employed, etc.)	
31	Weeks worked in 1985, full time/part time	
32	Income	

Form 2C - Overseas Questionnaire

Form 2C enumerated Canadians posted abroad in the Armed Forces or in government services. It contained all of the Form 2B questions pertaining to individuals, with the exception of place of residence in 1981. Housing questions were not included; however, questions about the person's usual place of residence in Canada were used. Unlike Form 2A and Form 2B, this questionnaire was designed to record information for one person only.

Form 3 - Individual Census Questionnaire

Persons in collective dwellings such as hotels, motels and rooming-houses or persons staying with friends, etc., were enumerated using Form 3, which contained no housing questions but otherwise was the same as Form 2B. Form 3 also recorded information on one individual only. Hence it was used to enumerate persons in private households who, for reasons of privacy, did not want to have their information on a household form.

3.5.1 Deletion of Items Included in 1981

The following questions were not asked in 1986 (question numbers refer to the 1981 questionnaire):

- Q.12, dwelling type (in 1986 relegated to the Census Representative)

- Q 14, tenure at dwelling
- Q 16, number of bathrooms
- Q 18(b), fuel used for water heating
- Q 19, need for repairs to dwelling
- Q 27, religion
- Q 35, school attendance since previous September
- Q 37, fertility
- Q 38, nuptiality (date of first marriage)

3.5.2

Questions Added to the 1986 Census

The consultations concerning the 1986 Census content resulted in the addition of three new questions to obtain information on major field of study, persons with disabilities, aboriginal peoples.

(a) Major Field of Study

The 1981 Census included a self-enumeration question (Question 12) on structural type, but serious response problems were encountered: respondents seemed to have difficulty categorizing dwellings other than single-detached house, apartment in a building that has five or more storeys, and movable dwelling. For the 1986 Census, Census Representatives (CR) coded structural type. The front cover of the 1986 Census questionnaire had a small box labelled TD. The TD box was used by the Census Representative to record structural type (type of dwelling), using one of the following codes:

- 1 - Single-detached house
- 2 - Semi-detached house
- 3 - Row house
- 4 - Other single attached house
- 5 - Apartment or flat in a detached duplex
- 6 - Apartment in a building that has five or more storeys
- 7 - Apartment in a building that has less than five storeys
- 8 - Mobile home
- 9 - Other movable dwelling

Originally, the CRs were to identify only four categories because the training required for more detailed coding was considered too expensive. These categories were: single-detached house, apartment of five or more storeys, movable dwelling (other than a mobile home) and all other types. In the end, a number of data users were willing to fund training and processing for the nine-category list. The more detailed breakdown is therefore available, but only as a custom request.

In the consultation process on 1986 content, federal government data users especially emphasized the need for information on field of training and specialization of persons with postsecondary degrees, certificates or diplomas. Employment and Immigration Canada, for example, considered this information essential to such programs as the Canadian Jobs Strategy and the Canadian Occupational Projection System. Responding to this need, Statistics Canada recommended that the 20% sample questionnaire include a question on major field of study in lieu of the 1981 question on school attendance.

Some data on major field of study had been compiled by Statistics Canada previously, through:

- (i) the 1971 Census question on vocational training and apprenticeship;
- (ii) the 1973 post-censal survey on Highly Qualified Manpower;
- (iii) the 1978 and 1984 National Graduates Survey;
- (iv) the 1982 Current Population Profile supplement to the regular Labour Force Survey; and
- (v) the annual surveys providing input to the University Student Information System (USIS) and the Community College Student Information System (CCSIS).

The result of this input was Question 23. The 1986 Census Guide added explanatory notes. Answers were coded using a classification with more than 430 categories.

(b) Persons With Disabilities

In February 1981, the Parliamentary Special Committee on the Disabled and Handicapped published a report entitled "**Obstacles**". The purpose of the report was to identify the key obstacles that disabled persons in Canada face, and to outline a practical course of action for helping disabled persons overcome these obstacles.

Recommendation 113 of "**Obstacles**" stated that "the Federal Government direct Statistics Canada to give a high priority to the development and implementation of a long-term strategy which would generate comprehensive data on disabled persons in Canada, using population-based surveys and program data." Among the steps suggested by the committee to implement this recommendation was "a commitment to include in the 1986 Census questions on disability, and a suitable follow-up questionnaire to generate data on disabled persons in Canada."

The consultations with census data users in the spring of 1982 indicated that organizations in both the public and private sectors strongly advocated a question dealing with disability for the 1986 Census. Furthermore, such departments as the Canada Employment and Immigration Commission, Health and Welfare Canada, Fitness and Amateur Sports, and Secretary of State (Status of the Disabled Persons Secretariat) offered financial support.

In October 1983, and in June 1984, the Canadian Health and Disability Survey (CHDS) was conducted by Statistics Canada as a supplement to the monthly Labour Force Survey. Results of the CHDS assisted in the design and development of the question on disability for the 1986 Census.

The result of these consultations was Question 20, and explanatory notes, which were included in the guide. Question 20 was a screening question, i.e. the results were used to select a sample for the post-censal Health and Activity Limitation Survey (HALS), conducted after the 1986 Census. Although data on persons with disabilities are available from the census, it is recommended that users consult HALS first.

(c) Aboriginal Peoples

The 1981 Census identified aboriginal persons through the ethnic origin question. This led to several criticisms, ranging from the inadequacy of the question itself to its inclusion among the sample questions. Statistics Canada was receptive to these criticisms and acted to improve both the question wording and the collection methodology in 1986.

As a first step, extensive consultations were undertaken to determine the needs of the different groups representing aboriginal peoples and the best way the 1986 Census data on aboriginal peoples could answer these needs. Thus, in May 1982, senior officials of Statistics Canada began meeting with representatives of all provincial and federal departments concerned with aboriginal peoples. Meetings were also held with the majority of the national associations of the native peoples as well as with some of the provincial associations. Suggestions and recommendations made in the course of these consultations were analysed, and options to carry them out were submitted to the various groups. After several meetings and a number of counter proposals, a compromise was reached in the form of Question 7, a question designed to identify and locate the aboriginal population of Canada. This question was separated from the ethnic origin question and asked of 100% of the population.

Wording of the question encouraged "self-perception"; hence, multiple responses were accepted, excluding of course a "No" response in combination with any other response.

The field edit procedures included this question among those slated for mandatory follow-up. This meant that households were contacted where the question was not answered for any member of the household.

Significant data quality problems have been identified with this question. Therefore, the decision was made not to officially release data from this question. Published counts of the aboriginal population are based on Question 17, the ethnic origin question. (For more information, see Section 11.4.)

3.6 Questionnaire Development and Production

The census questionnaire package had to be designed within the constraints of the collection methodology, the processing techniques and the requirements of the Post Office. As these elements, as well as the questionnaire content, change from one census to the next, the development and production of census questionnaires must be re-examined with each census.

Following the 1981 experience, the 1986 Census organization established the Questionnaire Development and Production Task with its Task Manager reporting to the Project Manager, Data Capture (see Figure 8). The task's primary objective was to produce an effective 1986 Census Questionnaire Package, including the questionnaires and support materials, such as guides and envelopes to be used in the

collection process (see Figure 9). The task had to produce this package within pre-established guidelines concerning time, cost and quality. The following sections deal with the four major phases of this task, i.e. Planning, Development, Production and Evaluation.

Planning

The main objective of the planning phase was to prepare a detailed set of operational plans for controlling the task's work. These plans included a work breakdown structure, network diagrams (critical path charts), Gantt charts, resource requirements and target dates. A number of studies, undertaken to investigate alternatives to certain key components of the task, also fell into this phase. Noteworthy among these studies are the three that dealt with bilingual methodology, automated form development and Braille forms.

Planning for questionnaire development and production began in the summer of 1981 with the team outlining preliminary goals. In September of 1982, this was followed by a study on alternatives for providing bilingual services. In July of 1983, the Task Manager issued a report entitled "1986 Census of Canada - Options to Optimize Offering of a Questionnaire in the Respondent's Preferred Official Language". On the basis of this report, a decision was made to produce a bilingual short questionnaire for the 100% enumeration (Form 2A) and a unilingual long questionnaire for the 20% sample (Form 2B). In households designated to receive a long form, the enumerator was to drop off a questionnaire in the language of the householder's choice and if no householder were home at drop-off time, questionnaires in both official languages were to be left. This departed from the 1981 procedure where forms in both official languages were dropped off only in those districts designated bilingual under the Official Languages Act.

Figure 8. MAJOR MILESTONES OF THE 1986 QUESTIONNAIRE DEVELOPMENT AND PRODUCTION TASK

	Start	Finish
QUESTIONNAIRE DEVELOPMENT & PRODUCTION TASK	July 81	Sept. 86
PLANNING PHASE	July 81	May 84
Study on bilingual methodology (Options concerning questionnaires in respondents' preferred official language)	Sept. 82	July 83
Report on automated form development	Oct. 83	Oct. 83
Formalizing of task framework and operational plan	Nov. 83	Feb. 84
Study on producing a Braille questionnaire	May 84	May 84
DEVELOPMENT PHASE	Feb. 84	Oct. 85
Acquisition of the Compugraphic Modular Composition System	Feb. 84	Feb. 84
Development of questionnaire	May 84	July 85
Small-scale test of 2A bilingual questionnaire	Sept. 84	Sept. 84
Development of envelopes	Jan. 85	June 85
Development of guide	May 85	Oct. 85
PRODUCTION PHASE	May 85	April 86
Production of photographic negatives	May 85	July 85
Printing of questionnaires	Aug. 85	April 86
Printing of envelopes	Aug. 85	Feb. 86
Printing of guide	Nov. 85	April 86
Translations into non-official languages & Braille	Aug. 85	April 86
EVALUATION PHASE	Feb. 86	Sept. 86

Figure 9. LIST OF PRODUCTS INCLUDED IN THE 1986 CENSUS QUESTIONNAIRE PACKAGE

(a) Questionnaires

Form 2A: Short Form Questionnaire (Bilingual)

Form 2B: Long Form Questionnaire (English and French)

Form 2C: Overseas Questionnaire (English and French)

Form 3: Individual Census Questionnaire (Bilingual)

(b) Envelopes

Form 2E: Drop-off Envelope (Bilingual)

Form 2E1: Mail-back Envelope for 2A/2B (Bilingual)

Form 2E2: Overseas Envelope for 2C (Bilingual)

Form 3E: Individual Questionnaire Envelope (Bilingual)

Form 5E: Double Drop-off Envelope (Bilingual)

(c) Other Materials

Form 9B: Guide (English and French)

Foreign Language Translations and Braille

Refusal Labels

A second study, concerned with automated systems of form development for the 1986 Census Questionnaire Package, was conducted in the spring and summer of 1983. This investigation resulted in a decision to acquire a Compugraphics Modular Composition System to replace the cut-and-paste method.

A third study, to examine the possibility of producing census questions in Braille, was conducted in May 1984. Following the recommendation made in the study's report, the 1986 Census produced a limited Braille edition of the census questions as well as of the "Message to All Canadians" and "Reasons why Questions Are Asked" portions of the questionnaires and guide.

In November 1983, the team of the Questionnaire Development and Production Task was expanded to include representatives from staffs responsible for the census content, questionnaire design, processing, methodology, collection and public communications. These representatives co-ordinated the preparation of input in their respective areas and the submission of this input to the task.

From November 1983 to February 1984, the team prepared the overall Task Framework and Operational Plan for the 1986 Questionnaire Development and Production Task. The result was a comprehensive planning package that permitted the monitoring and control of the subsequent phases of the task. The key planning assumptions of the task, as established in the Planning Phase, were as follows:

1. There would be no change to the 1981 specifications except for adjustments resulting from the "Discussion Paper - Plans for the 1986 Census" (see Section 3.3).
2. Both the long and the short questionnaires (Forms 2A and 2B) would include an aboriginal peoples question (see Section 3.5).
3. Type of dwelling would be completed by the Census Representative (CR) rather than by respondents.
4. The short form (2A) would be bilingual.
5. The long form (2B) would be unilingual and would contain a statement offering a questionnaire in the respondent's preferred official language. (This was later rescinded: the decision to leave an English and a French questionnaire at all households when no one was at home during drop-off obviated the need for this statement.)
6. The paper quality for the short form (2A) would be of lighter weight than that used in 1981 in order to ensure low postage rates for the bilingual form.
7. The official Canada wordmark would appear on all the materials in the questionnaire package.
8. The questionnaire layout would be compatible with the key-entry method of data capture and with principles of reducing response burden.

9. The Compugraphics Modular Composition System would be used to design and lay out the questionnaire package products. This equipment would also be used to produce other materials, e.g., selected manuals and forms, public communications bulletins.

Development

This phase involved preparing specifications for the questionnaires based on the approved 1986 Census content; laying out and designing each component in the questionnaire package; reviewing the artwork; and finalizing and approving all items to be produced.

Work on the Development Phase began in February 1984. Among the first steps were the assignment to the task of a forms designer from Creative Services, Publications Division, the acquisition of the Compugraphics Modular Composition System, the initial receipt from subject-matter areas of content specifications (which included the wording of questions, the instructions for answering them and the order in which they were to appear on the questionnaire), and the receipt of specifications from areas responsible for such activities as processing, field collection and public communications.

As already noted, the content of the 1986 Census was originally approved by Cabinet in April 1984, and gazetted in July of that year. From this point until October 1984, work continued on the development of the products to ensure the format of the questionnaires and support materials met the standards and requirements of the staffs concerned with subject-matter, processing and collection. In addition, a separate 2A bilingual questionnaire was produced to conduct a small-scale test in September 1984. The objective of the planned test was to measure the rate of non-response to the new question dealing with aboriginal status.

In November 1984, with the cancellation of the 1986 National Census, the Development Phase concentrated on preparing questionnaires and associated materials for a possible census of Manitoba and Saskatchewan (Section 3.3). In late December 1984, the national census was reinstated, subject to several constraints, among them (a) omitting two questions (type of fuel used for heating water and need for repairs to dwelling); (b) rewording and renumbering the other questions; and (c) explaining in the questionnaire package why each question was asked. The revisions to questionnaire content necessitated further development of the various components of the questionnaire package. In particular, a passage explaining the "Reasons why Questions Are Asked" was added at the end of the guide instructions to each question. The questionnaires and envelopes were finally approved in the summer of 1985, and the guide, in the autumn of 1985.

Production and Evaluation

The Production Phase of the task included producing negatives from the artwork for the census questionnaires designed during the Development Phase; liaising with Supply and Services Canada and the printing companies regarding printing contracts; monitoring and controlling delivery of all forms to the inserters-companies responsible for putting questionnaires and guides into envelopes (the Collection Task was responsible for insertion operations); translating the questions and other selected text items into non-official languages as well as into Braille; and quality checking of all products prior to delivery to the Field Collection staff.

The preparation of the negatives of the questionnaires commenced at the end of May 1985, and was completed in mid-July 1985. This work was contracted out to a private firm.

Tenders for printing were called by Supply and Services Canada in early June 1985. In all cases, contracts were awarded to the lowest bidder, resulting in contracts with seven private firms. In August 1985, printing of the questionnaires and envelopes began and printing of the guide began three months later. The envelopes were ready in February 1986, with the questionnaires and guides following in April 1986.

All census materials were made available in both official languages. In addition, the 1986 Census questions, together with the instructions for temporary residents, foreign residents, and Question 1, the address, the "Message to all Canadians" and the "Reasons why Questions Are Asked" were translated into 33 languages (Figure 10), in addition to Braille. Each of the languages chosen corresponded to a linguistic group that, according to the 1981 data, included at least 1,000 persons who did not speak either of the official languages. The translation was co-ordinated by the Secretary of State. Two thousand copies of the translations into each language were printed in-house at Statistics Canada, while 200

copies each of English and French in Braille were produced by a private firm. These were distributed to the Regional Census Offices.

During the entire Production Phase, strict quality control of all activities was maintained by team members of the task. For example, samples of printed sheets were checked at the printing plants to ensure proper registration, paper stock, colour and shading.

3.7

Critique and Evaluation

The final content of the census was a set of 32 statistical questions. This was felt to be a compromise, balancing a realistic assessment of capability, resources, user needs and response burden.

The success of the questionnaire content can be partially established through studies which evaluate the quality of data for each question. A check of response errors, for example, revealed that some respondents had problems with the new question on aboriginal status (see Section 11.4). Other data quality results are addressed in Chapter 7.

Figure 10. TRANSLATIONS FOR SELECTED 1986 CENSUS MATERIALS

Algonquian (Ojibway)	German	Polish
Arabic	Greek	Portuguese
Armenian	Hindi	Punjabi
Cambodian	Magyar (Hungarian)	Russian
Cree (Plains)	Inuktitut (symbolic)	Serbian
Cree (Quebec)	Inuktitut (Inuvialuktun)	Spanish
Cree (Swampy)	Inuktitut (alphabetic)	Tagalog (Philippines)
Chinese	Italian	Thai
Croatian	Japanese	Ukrainian
Dutch	Korean	Urdu
Finnish	Macedonian	Vietnamese

With a view towards the 1991 Census questionnaire content, testing of question wording, instructions, concepts or definitions, response choice and visual problems is being conducted to identify and rectify similar content problems. The Evaluation Report - 1986 Census Questionnaire Development and Production, completed in September 1986, addresses the three phases of producing the questionnaires. This report contains, among other things, a number of recommendations for 1991.

The responsibilities of the task were executed successfully. With the exception of meeting scheduled delivery

dates for printed forms to the inserter, all objectives were met on time and within budget. A number of external influences, however, caused several deviations from the original plan. It was impossible to predict the effects the political climate of the time would have on development and production plans for the 1986 Census questionnaire package. A precedent has been set and planners of future census programs should be aware that social and economic conditions can influence data requirements right up to print deadlines. Flexibility will be a primary requirement for producers of future census questionnaires.

4. COLLECTION

Collecting data from every Canadian household was no small feat in logistics. It required a staff of over 40,000. The data collection process continued over more than two years and included a variety of tasks, from mapping to conducting postcensal activities.

Enumeration procedures in the 1986 Census were basically the same as those used in the 1981 Census. Two collection methods were used: self-enumeration and canvassing. Self-enumeration, the main procedure used in the 1986 Census of Canada, covered approximately 98.4% of the Canadian population. The remainder of the population was covered by canvassing. In remote areas, all enumeration was carried out by canvassing. Unlike 1981, when Indian reserves were enumerated according to the method used in the surrounding area, a special program was developed (see Section 11.4).

The census reference date was June 3, 1986. Every person alive at midnight between June 2 and 3 was to be enumerated. Babies delivered and immigrants arriving after that time were to be excluded. Those away from their usual place of residence on Census Day were to be enumerated as residents of their home localities, rather than as residents of the places where they were staying temporarily. Foreign residents (e.g., students from another country attending school in Canada, and their families; government representatives of another country attached to the legation, embassy or other diplomatic body of that country in Canada, and their families) were not to complete the questionnaire. They were to simply mark a designated check box and return the questionnaire as instructed. Special care was taken to enumerate collective dwellings and their residents as accurately as possible. Collective dwellings were enumerated on the night of June 2/3, whenever possible.

4.1

Census Mapping for Collection

Maps produced especially for the 1986 Census played an essential role in ensuring that every part of the country was covered for the Census enumeration, and that no area was counted more than once.

Canada was divided into 282 federal electoral districts (FEDs) which were carved into 1,959 Census Commissioner Districts (CCDs) staffed with 1,936 Commissioners. CCDs were divided into 43,220 enumeration areas (EAs) (with the postcensal splits - 822 in all - 44,042 EAs). Generally, one Census Representative (CR) was assigned to an EA; however, in certain circumstances, a CR's assignment may have contained more than one EA.

The number of households in an EA generally varies between a maximum of 375 households in large urban areas to fewer than 125 in more remote rural areas. There are exceptions to the number of households within an EA. For example, large establishments (hospitals, hotels, etc.) are referred to as "collective" EAs.

A field check program consisted of five main stages:

1. Delineation of enumeration areas and Census Commissioner Districts, all respecting the geostatistical areas for which census data are made available. This stage started in September 1983 and was performed by the Geography Information Services and Field Delineation Unit.
2. Production of preliminary maps, conducted concurrently with the first step.
3. Field check of enumeration areas. This task was conducted at a local level by the eight Regional Offices of Statistics Canada and consisted, among other things, of EA familiarization, boundary checks and confirmation of the type of EA. The checks were to ensure that EA boundaries were easily identifiable, and that housing

growth, as well as changes in streets or rural road patterns were reflected on the maps. This step was co-ordinated by the Survey Operations Branch.

4. Evaluation of field check returns and the finalization of enumeration area maps.
5. Updating of base maps and the production of field materials.

These five stages were completed by December 1985 and over 43,000 individual EA maps were produced. The necessary materials were packaged and shipped to the Regional Offices in time for the census.

Efforts are made to limit the number of changes in EAs from one census to the next. Nevertheless, many factors cause changes. For example, the boundaries and codes of enumeration areas change from census to census reflecting population shifts; changes to electoral, municipal and statistical boundaries; and changes to Census Representative work-load criteria. At the national level, only 55% of 1986 EAs have an exact 1981 equivalent (41,000 EAs in 1981). Some 6,000 of the 1981 EAs were cancelled and 9,000 new ones created.

More information on EAs can be found in the Reference Paper 1986 Census Geography: A Historical Comparison (99-106E and F). Catalogue No. 99-127, entitled Equivalent Enumeration Areas, 1986 and 1981, shows geographically equivalent EAs or groups of EAs for 1981 and 1986 by FED. Map series G86-18, entitled Maps of Federal Electoral Districts/Enumeration Areas, contains a series of maps showing EA boundaries.

Several innovations in mapping occurred. For example, automated mapping of 1,200 census tracts, covering eight to nine thousand EAs, led to considerable savings.

4.2

1986 Census Collection Specifications

The 1986 Census Collection Specifications Book was developed to provide a clear and comprehensive statement of the subject-matter and methodological requirements of the collection process. The first step in creating the 1986 edition was to review its 1981 counterpart. Although there were to be no changes except those resulting from a change in questionnaire content or those resulting from problems identified in 1981 Census evaluation reports, some changes were required. As a result, changes to the collection specifications were required. In addition, the format of the specifications book was changed to make it more useful.

Coverage instructions to be included on the questionnaires were developed from the specifications, and all field manuals and training material were reviewed against them.

4.3

Staffing and Duties of Field Staff

As with previous censuses, hiring was carried out consistent with the provisions of the Statistics Act and the Public Service Employment Act.

Field collection staff were recruited by secondment from Regional Offices, by Public Service Commission competitions, or by means of referrals through the Minister responsible for Statistics Canada, Employment and Immigration Canada, ethnic centres, etc. The following hiring procedures were exercised:

Regional Field Operations Managers
Generally staffed through ROs

Census District Managers (CDM)
Staffed through competition

Census Area Managers (CAM)
Staffed through competition

Census District Managers Assistants
Staffed through competition

Census Commissioners
Appointed under the authority of the Statistics Act

Census Representatives

Recruited by Census Commissioners approved by Regional Directors under the authority of the Statistics Act. Emphasis was on hiring students/youths. The referral source was predominantly Canada Employment Centres.

Applicants were selected using objective tests and interviews.

Two significant staffing changes from 1981 occurred. At the time the census was reinstated, a decision was made that the 1986 Census would support student/youth employment initiatives. As a result, the 1986 Census Student/Youth Recruitment Program, a co-operative effort between STC and Employment and Immigration Canada, provided \$30 million to hire 26,395 youths aged 18 to 24 and students to work on the census. Approximately 44,000 in all were hired for field collection activities.

The second change to hiring was that *all* members of Parliament were invited to nominate a contact person who would identify candidates for Census Commissioner positions in their constituencies.

Regional Director (RD)

The Regional Directors were permanent employees of Statistics Canada, responsible for the entire census program within their region. Each of the eight Directors (one per region) reported directly to the Associate Director General of Regional Operations Branch.

Regional Field Operations Manager (RFOM)

The Regional Field Operations Managers were first appointed, one per Regional Office (Sturgeon Falls excepted) mainly from the ongoing staff of survey managers in each region. They were responsible for all collection activities in their regions. Their task included setting up the field organization, managing operations, ensuring the confidentiality of all completed questionnaires, and training and supervising the Census District Managers in their region. There were seven RFOMs for the 1986 Census, all full time by January 1, 1985.

Assistant Regional Field Operations Manager (ARFOM)

The seven ARFOMs were responsible for the many support operations for the census such as the Management Information System, the Telephone Assistance Service, the Field Collection Unit, and the Logistics Operations.

Census District Manager (CDM)

ROs ran competitions to fill Census District Manager positions (PM3). Requirements focussed on managerial capability and experience.

The Census District Manager was the first level of supervision between the Regional Field Operations Manager and the field staff. CDMs were responsible for planning and organizing for the census, hiring and training Census Area Managers (CAMs), directing and monitoring operations and advising the RFOM on developments in the field.

Each CDM hired an Administrative Assistant to perform clerical and administrative functions. The Census District Manager's duties began September 15, 1985 and continued for approximately one year.

Census Area Manager (CAM)

Most of the 175 Census Area Managers were recruited from the Public Service Commission, Canada Employment Centres and through newspaper advertisements. Proven managerial capability and experience were a prerequisite.

CAMs were responsible for planning and organizing the operations in the 12 to 15 Census Commissioner Districts of their area. This entailed familiarizing themselves with CAM areas and conducting the field mapping check, hiring and training Census Commissioners, Quality Control Technicians, and CAM Administrative Assistants, co-ordinating, supervising and solving problems.

The CAM reported to the Census District Manager. The Census Area Manager's duties began January 2, 1986 and continued for approximately nine months.

Census Commissioner (CC)

Census Commissioners were appointed by the Minister responsible for Statistics Canada. There was generally one CC for each Census Commissioner District (CCD) (a subdivision of a federal electoral district). Final approval of their appointment was given by March 14, 1986. A total of 1,936 commissioners were responsible for the organization and successful completion of the enumeration in the assigned CCD. This entailed hiring, training and supervising the work of 12 to 20 Census Representatives (CR). Each CC hired an Administrative Assistant to perform clerical and administrative tasks (85 hours total per position, May 26 to July 4). Commissioners were employed from April 1 to July 18, 1986.

Census Representative (CR)

Census Representatives were responsible for visiting every dwelling in their enumeration area and obtaining a completed questionnaire. The nature of their duties and the procedures they employed varied according to the type of enumeration area.

Census Representatives in self-enumeration areas were paid on a piece-rate basis that included listing, drop-off, edit and telephone follow-up, and field follow-up or pick-up; the piece rate included a mileage reimbursement as well as 4% in lieu of vacation leave. The rate varied according to the household density of the area. A completion payment of \$100 (per CR) was given to those in self-enumeration areas who completed the assignment to the satisfaction of the Census Commissioner (or as adjudicated by the Regional Director or his designate). CRs in canvasser areas were paid by the hour, plus mileage/kilometrage for travel to training, and travel for enumeration.

In both self-enumeration and canvasser areas, CRs received an interim payment (\$175) after the first phase. In canvasser areas, the payment was issued after sufficient hours were accumulated to have earned \$175; in self-enumeration areas, it was payable after the home

study, the drop-off training class and the completion of drop-off. The balance and final payment was made when the assignment passed Quality Control and was completed to the satisfaction of the Chief Statistician.

The 1986 Census program employed approximately 38,000 Census Representatives. Their term of employment (part time, May 20 to approximately June 27) varied in accordance with the complexity of the enumeration in their EAs.

Quality Control Technician (QCT)

The Quality Control Technicians were hired and trained by each Census Area Manager. They were required to ensure there was a questionnaire for each dwelling in the EA, ensure that the data collected by the Census Representative met required standards, validate the Census Representative's Account form, determine the percentage of Forms 4A and 4B created for population questionnaires, advise the Census Commissioner in the case of a rejected EA, and explain the reason(s) for rejection and what steps must be followed to upgrade the EA to pre-established standards.

The 1,110 technicians were employed from mid-June to mid-July 1986, for approximately 100 hours each.

Telephone Assistance Service (TAS) Personnel

Forty-eight supervisor and 420 operator positions were staffed with Regional Census Office personnel to provide the Telephone Assistance Service (TAS). TAS personnel assisted respondents who had difficulty completing their census questionnaire and respondents who reported to field collection personnel that they had received a defective questionnaire, a questionnaire in the wrong official language or no questionnaire. The term of employment was May 22 to June 11 excluding Sunday.

4.4 Training of Field Collection Staff

An instruction program required to train collection staff for the 1986 Census and to be responsible for meeting the training needs required by the two collection methods, self-enumeration and canvasser, was developed. In total, training programs for five census staff levels and four special programs were produced.

Three basic approaches were adopted in the training program. First, a "cascade" approach was implemented. Staff members were trained by their supervisor before they, in turn, trained their subordinates. Second, a "train-and-do" philosophy was used, where applicable. This approach called for field personnel to be trained on only a portion or phase of their duties and completion of that training to perform the task. They returned to be trained for the next phase of the operation. The third basic approach was "total training". Where feasible, it required personnel to be trained not only in their own duties, but also on the detailed duties of all staff levels under them and for which they were responsible. This approach was based on the assumption that good managers and supervisors need to be thorough and understand the duties of those they must train and supervise.

Training Methods

Training sessions ranged between 2 and 20 days, depending upon the position. Two methods were employed. The "home-study method" required trainees to study documentation and to complete exercises individually. The "class-room method" involved lectures, discussions, case studies, role plays and audio-visual programs, and a trainer reading verbatim to the class from a guide supplied by Head Office. Verbatim instruction not only assured a high level of training uniformity across the country, but also could be implemented without difficulty by trainers inexperienced in census methodology and training procedures.

Language of Training

In Designated Bilingual Areas, individuals were trained in the official language of their choice. Where the number to be trained in each official

language warranted it, one group was trained in one language in the morning and the other group in the other language in the afternoon.

Where the number of trainees in one language did not warrant a separate training session, the trainer made arrangements with his/her immediate supervisor to have these individuals trained by a trainer in a neighbouring area.

In Designated Unilingual Areas, trainees received their training in the predominant language of the area.

4.5 Field Material Management (Logistics)

The collection stage of the 1986 Census was supported by a logistics program, the objectives of which were:

- (a) to provide efficient warehousing operations, including the receipt, storage, assembly and distribution of material, according to specified timetables, to all levels of the field collection organization; and
- (b) to arrange for, and monitor, the return and disposal of material upon the completion of the field collection activities.

As in 1976 and 1981, logistics activities decentralized from the Head Office to the Regional Census Offices and to the field level. Decentralization had the advantage of using the knowledge and expertise of personnel at each level, thus providing for a more accurate distribution of material.

At the Head Office level, the Census Collection and Agricultural Surveys Section of the Survey Operations Division was responsible for the functions of planning operations, development of logistics procedures and centralized procurement operations. A chronology of selected major activities performed by the Head Office is shown in Figure 11.

On the whole, the 1986 logistics program worked well. Consequently, a similar program will be recommended for the 1991 Census, with the possible further use of decentralized procurement for supplies.

Figure 11. CHRONOLOGY OF SELECTED MAJOR HEAD OFFICE ACTIVITIES

<u>Date</u>	<u>Activity</u>
August 1984 - March 1986	Procurement and delivery of supplies, furniture and equipment to RCOs
March 1, 1985 - May 30, 1986	Reception of printed material
June 29, 1985 - February 28, 1986	Assembly of drop-off packages Assembly of individual census questionnaire packages Distribution of questionnaires to RCOs
November 1985 - May 1986	Distribution of bulk enumeration forms and supplies to RCOs
June 30, 1986 - December 30, 1986	Reception of material from RCOs

Figure 12. CHRONOLOGY OF SELECTED MAJOR REGIONAL OFFICE ACTIVITIES

Distribution and shipments to Census Area Manager (CAM) from RCO	<u>Activity</u>	<u>Latest Shipping Date</u>
	Recruitment supplies	January 6, 1986
	Administrative supplies	January 6, 1986
	CC Stage I training supplies	March 10, 1986
	Bulk enumeration forms and supplies	April 7, 1986
	CC Stages II and III training supplies	April 7, 1986
	Quality Control supplies	May 26, 1986
Distribution and shipments to Census Commissioner (CC) from RCO		
	Recruitment supplies	March 25, 1986
	Administration supplies	March 25, 1986
	Census Representative (CR) training guides	April 13, 1986
	Bulk enumeration supplies for CRs	April 13, 1986

4.6 Self-enumeration and Canvassing

In the 1986 Census experience, the enumeration of the approximately nine million households across Canada was accomplished using self-enumeration and canvassing.

(a) Self-enumeration

Self-enumeration was introduced in the 1971 Census and has been used in all subsequent censuses because of several advantages:

- (i) high quality data can be obtained at a lower cost than other collection methods;
- (ii) respondents are given the opportunity to consult records such as income tax returns and birth certificates so as to provide accurate responses to certain questions; and
- (iii) errors that CRs might have inadvertently caused through misinterpretation of the questions are eliminated.

There are two types of self-enumeration: drop-off/mail-back and drop-off/pick-up. The drop-off/mail-back method was generally used in urban areas with a population of 10,000 or more. In 1986, 69% of households were enumerated using this procedure. The drop-off/pick-up procedure was used in rural areas and centres with populations of less than 10,000 where mail services were often less accessible and party-line telephones could have compromised confidentiality during follow-up. Approximately 30% of Canadian households were enumerated using the drop-off/pick-up method.

During the drop-off phase of self-enumeration, the CR was to list each dwelling in his/her EA in a Visitation Record (VR), which was later used to ensure complete enumeration and to make certain each household returned a questionnaire. During the last week of May 1986, questionnaires were dropped off at private households in

self-enumeration areas. Some 80% of the households received a short form (2A); 20% received a long form (2B). Form 2B questionnaires contained the eight basic questions on Form 2A as well as 24 additional questions. Residents of lodging-/rooming-houses (collective households) received Form 3. Other collective households were enumerated the evening of June 2/3.

The drop-off procedures began with the CR planning his/her route according to guidelines established in the CR's Procedures Manual. Pre-planning the enumeration route ensured that all dwellings would be covered in the most systematic and efficient manner. Following this route, the CR found and listed in the VR every dwelling within the EA. The CR attempted to make contact at every private occupied dwelling.

If contact was made at the dwelling, the CRs introduced themselves and showed their identification card. The appropriate questionnaire(s) (i.e. Bilingual Form 2A, English Form 2B, French Form 2B, and/or Form 3) along with associated materials, such as the guide and the mail-back envelope, were left with the householder after the household number and dwelling type were entered by the CR on the questionnaire(s). The CR asked the householder to complete the questionnaire(s) as of June 3, 1986. The CR also informed the householder of the guidelines in the Form 2A, the guide for Form 2B and the Telephone Assistance Service. In mail-back areas, the householder was asked to mail the completed questionnaire in the pre-addressed mail-back envelope. By June 30, 1986, 86.4% (compared with 90.4%

for the same time frame in 1981) of the mail-back questionnaires across Canada had been received. In pick-up areas, the householder was asked to retain the completed questionnaire for pick-up after Census Day.

If the householder was not at home during enumeration, the CR dropped off either a Form 2A or French and English Forms 2B (double drop-off). The CR entered the household number and dwelling type in the designated boxes and ticked the appropriate return instructions box on the front of the drop-off envelope informing the respondent to either mail the questionnaire back or retain it for pick-up. The CR left the drop-off envelope (containing the questionnaire(s) and guide) between the doors, under the door or in the mailbox.

(b) Canvassing

In canvasser areas, enumeration followed the traditional pattern of the face-to-face interview with the CR recording the answers. Less than 1% of Canada's population was enumerated by this method, but the remoteness and vastness of many canvasser EAs produced problems not encountered in self-enumeration areas. Approximately 90% of Canada's land mass was covered by canvassers.

Training at all levels had to be carefully arranged to take into account the amount of travel of the trainees involved. Since trainees in the more remote areas could not travel back and forth from home every day, they had to be lodged near the training centre. This arrangement led to full-day training sessions.

Sampling was not used in canvasser areas. Therefore, all information on population and housing had to be collected on the Form 2B questionnaire. Collective dwelling enumeration was completed as in self-enumeration areas on June 2/3.

Enumeration began on June 3 and ended approximately June 18, with Census Representatives travelling from dwelling to dwelling, interviewing householders. When it was impossible either to contact the householder or to collect the required information from other members of the household, the Census Representative either left an Individual Census Questionnaire (Form 3) to be completed by the householder, or arranged to return at a suitable time.

4.7 Services during Collection

(a) Telephone Assistance Service (TAS)

The Telephone Assistance Service was intended to help householders who had problems understanding and answering questionnaires as well as to identify those who did not receive a questionnaire or got a defective or wrong language questionnaire. The operation was advertised to be available throughout Canada at no charge for eight days from May 29 to June 6 (excluding Sunday), 9:00 a.m. - 9:00 p.m. The service was extended beyond June 6.

Service was available in both official languages; in all cities, additional language facilities were also available.

The following calls were received:

Total calls	-	252,498
English calls	-	196,218
French calls	-	52,011
Other calls	-	1,854
Additional calls	-	2,415

(b) Services to the Hearing Impaired

Service was also made available to users of TDD/TTY (telecommunication devices for the deaf/teletype machines). Users could dial a 1-800 number to obtain information at no charge. This service operated as part of the Telephone Assistance Service, located in Ottawa. Forty calls were received.

(c) **Services to Other Language Groups**

The 1986 Census of Population questions, as proposed in the submission to Cabinet (February 1985), were translated into 33 languages other than English or French. Each language represents a population (in 1981) of 1,000 or more who did not speak either of the official languages (see Chapter 3).

(d) **Braille**

Research had determined that approximately 1,500 English- and 1,000 French-speaking persons in Canada read Braille. For this reason, the questions were also made available in Braille.

It should be noted that "other language" and Braille questionnaires were not designed to record responses. All data were recorded or transcribed on an English or French Form 2A or 2B.

responses conformed to pre-determined rules. For example, the following decision process applied to Question 3 (Date of Birth):

<u>CONDITION</u>	<u>ACTION</u>
(1) The month or the year is blank.	Mark for follow-up.
(2) The day is blank and the month is June.	Mark for follow-up.
(3) An alphabetic response is given for month of birth rather than a numeric response (e.g., Jan. instead of 01).	Accept.

During both the General and Detailed Edit Procedures, the CR "marked for follow-up" any question not meeting the criteria for acceptance as established in the Field Edit portion of the Procedures Manual.

Follow-up

Households failing Field Edit or having missing information were contacted during the follow-up phase. Follow-up procedures were designed with the self-enumeration methodologies in mind, i.e. if a questionnaire required follow-up in a drop-off/mail-back EA, the CR was to complete follow-up after Field Edit. In drop-off/pick-up EAs, the field edit and follow-up procedures were carried out at the respondent's home. In canvasser EAs both procedures were part of the canvassing procedure.

In drop-off/mail-back EAs, initial follow-up was by telephone, as this was the most time- and cost- effective method. If the necessary information could not be obtained by telephone, the CR conducted a field follow-up.

4.8 Field Edit and Follow-up

Census Representatives (CRs) carried out the Field Edit and Follow-up phase to ensure all census questionnaires were correctly filled in. Field Edits identified errors, whereas the follow-up procedures corrected them. CRs were not to look for, nor attempt to correct, inconsistencies in completed questionnaires, other than those errors falling within the provisions of the Field Edit and Follow-up portions of the Procedures Manuals.

Field Edit

The Field Edits consisted of General Edit and Detailed Edit Procedures. General Edit Procedures covered document control information and blanket edit rules (e.g., all items left blank that should have been completed were marked for follow-up) The Detailed Edits related to specific questionnaire items and generally involved the application of a multi-step decision process; the CR would examine certain questions to ensure the

4.9 Refusals

A refusal is any face-to-face indication of unwillingness on the part of the householder to complete the questionnaire (2A or 2B). A total refusal is the situation in which the householder will not supply the information required to complete the questionnaire beyond Question 1. A partial refusal is the situation in which the householder refuses to provide the information required for the questionnaire (2A or 2B) to pass Edit.

Completion of the census questionnaire is mandatory pursuant to the Statistics Act, 1970-71-72, Chapter 15. A person is liable to a fine of \$500 or imprisonment for three months, or both, for refusing to answer the census questions, or for wilfully giving false information on the census questionnaire.

Successive attempts are made to contact households refusing to participate in the census. Experience has shown that each successive contact converts a certain proportion of refusals to respondents.

A household refusing to complete a Form 2B was not offered a Form 2A. In refusing households where there was more than one responsible adult, all names of adults who refused to complete the questionnaire were referred to the Department of Justice.

Procedures for dealing with refusals were designed according to the advice of legal council. Cases were reviewed by both the Regional Office and Head Office and, based on established criteria, a total of 39 cases were forwarded to the Department of Justice for prosecution. As of June 27, 1989, of these cases:

- 11 were dropped;
- 10 were resolved before the court date;
- 10 non-respondents pleaded guilty;
- 3 non-respondents were found guilty;
- 4 non-respondents were found not guilty or had their case dismissed;
- 1 case was outstanding (case to be dropped).

4.10 Field Quality Control

Field Quality Control procedures were carried out to ensure data from all enumeration areas (EAs) in Canada met specified quality standards; to correct the data from EAs that did not meet standards; and to motivate the Census Representatives (CRs) to produce high quality data.

Two independent quality checks were performed in the field: one conducted by the Census Commissioner (CC) and the other by a Quality Control Technician (QCT) (reporting directly to the Census Area Manager (CAM)). Although the quality checks were similar in nature, the purpose was different. The commissioner, being the direct supervisor of the CRs, was ultimately responsible for the quality of their work. As such, the CC had to ensure that the CRs had the required tools to perform their duties (e.g., accurate maps) and that the procedures were followed correctly. The CC, therefore, performed checks before, during and after enumeration. The QC Technicians, however, performed the final check, when the CR's assignments and the CC's quality checks had been completed. The check identified EAs requiring further clean-up by either the original CR, a specially appointed clean-up CR or the Census Commissioner.

The QC Technician performed up to three reviews of the EA boxes previously checked by the commissioner. Following specified procedures, the Field Quality Control operation conducted the following checks:

- (a) Coverage Checks:
 - (i) EA box checks ensured that all occupied private dwellings, unoccupied private dwellings, temporary residents in private dwellings and collective dwellings, and collective EAs listed in the VR had corresponding forms in the EA box.

- (ii) Unincorporated Places (UP) check ensured the correct identification of UPs in the VR, that boundaries were indicated on appropriate maps, and that all UPs listed on the EA map were accounted for.
 - (iii) Disability survey sample selection check ensured that those EAs identified to participate in the postcensal Health and Activity Limitation Survey had a completed Disability Survey sample (DS) form.
- (b) Edit Checks - an edit check of population questionnaires, and transcription and edit check for collective dwellings and EAs, verified that the CR had applied editing procedures correctly.
- (c) Validation of account forms ensured the information provided on the account forms by the CRs was accurate and legible.
- (d) The number of population questionnaires was checked. If the percentage of missing questionnaires (Form 4A) and incomplete questionnaires (Form 4B) was over 2% of the total number of private households, the EA box was rejected. Otherwise, it was accepted.
- (e) Check of Collection Commissioner's Preliminary Report on Population and Dwellings (Form 10) ensured that the totals recorded in the EA summary portion of the VR had been entered correctly on Form 10.
- (f) Check of zero-population EAs verified that the CC had prepared a VR for each zero-population EA and had written 'No-population EA' across the front cover of the VR.

Figure 13 illustrates the procedures followed by the technician during the operation. The first review resulted in 35.5% of the total number of questionnaires being rejected.

4.11 Management Information System (MIS)

The collection stage of the census had to be completed in a very short time, using a large staff (mostly temporary and inexperienced) and expending a substantial budget. Such an operation required a Management Information System (MIS) that enabled each management level to monitor continually the levels below it, identify problems and take remedial action as required. As a result, the Field MIS or Collection MIS was designed.

The 1986 Collection MIS consisted of three components, or modules: personnel, progress and cost.

The personnel component provided information on the number and selected characteristics of the employees hired for the field collection organization, as well as on the training and turnover of this staff.

The progress component reported on such aspects as the number of households visited at the time of drop-off (reported on June 9 only); mail returns (daily reports between June 3 and June 13, 1986); Completion Status Reports (weekly reports); and refusals and results of quality control (weekly reports).

The cost component provided up-to-date information on the expenditures for such items as travel expenses, postage, shipping, training, enumeration and quality control/clean-up. This cost information, combined with estimates based on the previously mentioned personnel and Completion Status Reports, was used to project the collection expenditure on a regional and national basis. In turn, funds were monitored by comparing these projections to budget estimates.

As with any survey, collection was a Regional Office responsibility. Therefore, the field collection program, once developed, was turned over to the regional offices for implementation. The activities falling under Regional Office responsibility included staffing, conducting the mapping program, and conducting enumeration, as well as controlling quality of enumeration materials and conducting postcensal activities. Throughout the process, consultation, advice and guidance were provided by Head Office.

4.12 Public Communications

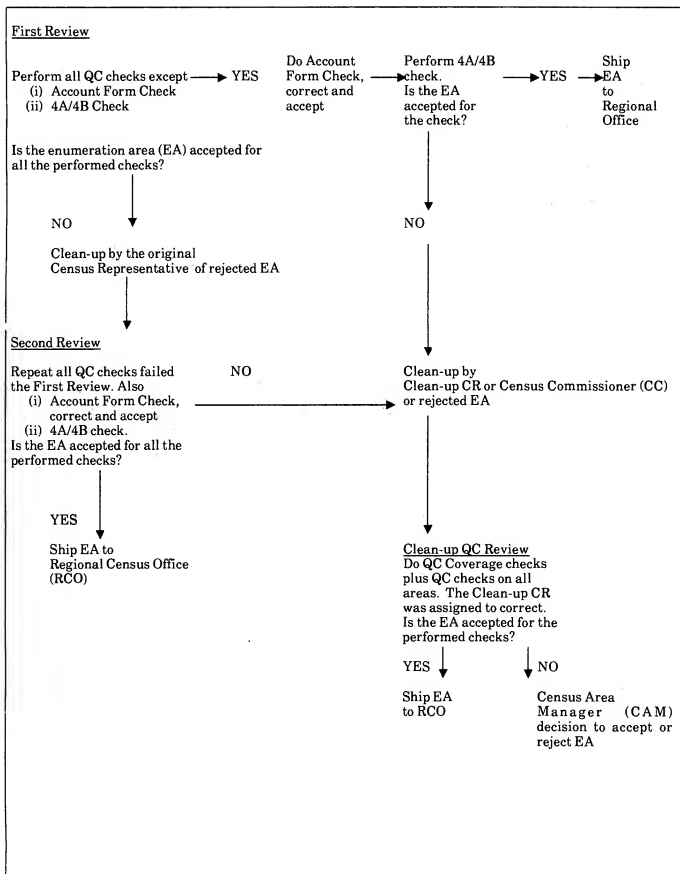
The collection operation was supported by the Public Communications Program (PCP), the objective of which was to create a national awareness of Census Day, June 3, 1986. This awareness was to motivate the public to complete the questionnaires accurately and to return them promptly. Details of the 1986 PCP are presented in detail in Chapter 10.

4.13 Critique and Evaluation

The 1986 Census collection activities were completed on schedule and within budget despite the many operational concerns. The most serious concern was the increase in the undercoverage rate from 1981. A portion of this undercoverage was due to persons missed from enumerated households. Attempts are being made to rectify this problem for the 1991 Census.

The 1986 collection activities differed from previous census programs in a number of ways. The 1986 Census employed a Student/Youth Employment Program designed and funded to hire 25,000 students and youths. For the collection activities, over 26,000 students and youths, hired under the Statistics Act, occupied short-term field collection positions. Portions of the training program used the "home-study method" whereby the trainees were required to study documentation and complete exercises individually. This approach was used at the Census Representative level along with classroom training.

Figure 13. QUALITY CONTROL TECHNICIAN (QCT) OPERATION



5. DATA ASSIMILATION

The Data Assimilation (DA) Task was set up to manually process the respondent-completed questionnaires, capture the information, perform data analysis and maintain microfilm records.

The enumeration area (EA) boxes and their corresponding questionnaires were received in six regional processing sites located in Revenue Canada Taxation Centres and in the Head Office processing site at Statistics Canada in Ottawa. The questionnaires were edited, coded, groomed and batched. The information on the 2A and 2B questionnaires was then captured in computer form at the six Regional Taxation Centres and the Taxation Centre in Ottawa through a system developed and implemented by Revenue Canada Taxation. The data were transferred to magnetic tapes and transported to Statistics Canada. Once accepted by STC, data analysis comprising the performance of structural checks and reconciliation of counts was performed. The data were then reformatted for input to Edit and Imputation Task. Finally, this task created and maintained microfilm records to satisfy archival requirements.

The DA Task was divided into the following sub-tasks:

- Co-ordination and Administration
- Regional Office Processing
- Direct Data Entry
- Head Office Processing

5.1 Co-ordination and Administration

This sub-task co-ordinated all aspects of Data Assimilation. It had the responsibility of supervising the ongoing activities of the other sub-tasks, and integrating and co-ordinating operational plans, budgets, milestones and task meetings.

DA can be divided into three phases: planning, development and production. Planning activities, although performed

separately for each sub-task were similar in nature. Development and production phases will be described separately for each sub-task.

The objective of the planning phase, which started several years ahead of the census, was to establish a formal plan that could be used to monitor and control all aspects of the project during the development and production phases. Documentation produced in the planning phase included:

- milestones for 1986 DA sub-tasks,
- operational plans,
- budget forecasts,
- delineation of responsibilities for project participants, which established effective communication channels,
- determination of personnel requirements,
- establishment of contact for co-operation with Revenue Canada Taxation.

During the planning phase, milestones were set for the development and production phases. The planned completion dates for development were revised somewhat to compensate for the temporary cancellation of the census. Most activities were shortened in duration; however, the delays that resulted did not have a major impact on the planned production start dates.

Fiscal restraints initiated at the senior levels of government caused the 1986 Census to be a repeat of the 1981 Census and, consequently, the existing systems had to be kept and improved upon. However, modifications to the content of the questionnaires produced inevitable changes to the system.

5.1.1 Co-ordination and Association With Revenue Canada Taxation

The 1986 Data Assimilation organization worked closely with Revenue Canada Taxation (RCT). The success of the 1981 arrangement of using RCT facilities and personnel, especially for the data entry operation, led to a repeat of the process

for 1986. The cost associated with implementing this operation was offset by the availability of RCT's large temporary staff, office space and computer equipment.

In the Regional Office Processing activity, using RCT facilities and equipment, the data on the census questionnaires were coded and groomed at six RCT centres (St. John's, Newfoundland; Shawinigan, Quebec; Jonquière, Quebec; Sudbury, Ontario; Winnipeg, Manitoba; and Surrey, British Columbia) and at Statistics Canada (STC), Ottawa, Ontario. The Direct Data Entry (DDE) activity was completed on behalf of STC entirely by Revenue Canada Taxation at these same sites as well as at the Taxation Centre in Ottawa. Co-ordination was further required between Head Office Processing and RCT to ensure the data tapes received from the DDE operation were of good quality.

The specific responsibilities for both STC and RCT were established initially in a Memorandum of Understanding, prior to beginning development for the 1986 Direct Data Entry System. The memorandum was signed on July 19, 1985. This document summarized the major responsibilities of the two departments, identified the method of payment for the services provided, and stated the duration of the agreement. It was agreed that STC would prepare the documents for key entry and RCT would be responsible for the development of the data entry and control systems, the recruitment and training of the data entry staff, and the implementation and management of the data entry/verification operation.

An effective two-way communication channel between STC and RCT was essential. Although communication between various members of both departments occurred regularly, all contact was controlled by the main designates (the DDE sub-task manager and the System and Administrative co-ordinators from RCT). Clear concise communications were accomplished by telephone calls, memoranda, meeting minutes and monthly RCT progress reports.

5.1.2 Management Information System (MIS)

The Management Information System (MIS) was placed in operation for each sub-task and reported person-day consumption, productivity, movement of work components through the system and quality of work produced. The system provided management with a clear image of production throughput quality notes and person-hours consumed in each site. While the information for Regional Office Processing (ROP) was collected manually on forms completed daily and weekly as well as a series of graphs, MIS data collection for DDE and Head Office Processing (HOP) sub-tasks was built into the data capture system, and collected, computed and produced by region and for Canada as a whole. Overall, MIS provided essential information to assess completion status and expenditures against the plan.

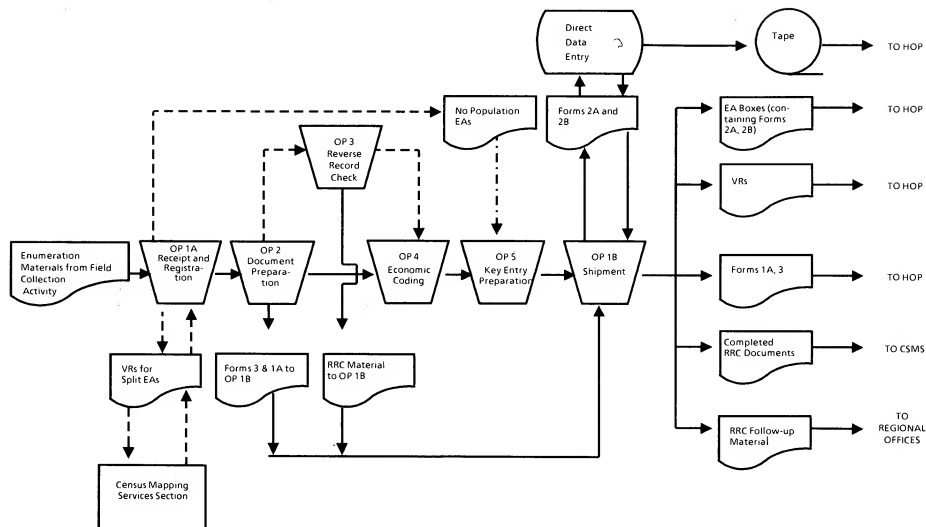
5.2 Regional Office Processing

5.2.1 Scope and Objectives

The principal objective of 1986 Regional Office Processing (ROP) was to prepare and code the respondent-completed census questionnaires for input to Direct Data Entry. Within development and production phases, ROP prepared processing materials, trained staff and implemented operational procedures for editing, coding and controlling census documents. These tasks were to be completed within established similar time, cost and quality constraints as in 1981. To that end, ROP planned, developed and produced the required data without implementing major changes to the approach methods and time frames. (A flow chart of the ROP operation is presented in Figure 14.)

However, there were significant changes during the development and production phases, ranging from a reduction in resources allocated during development to new production process flows and site distributions.

Figure 14. 1986 REGIONAL OFFICE PROCESSING PROCESS FLOW



The regional processing sites across Canada received 9,851,811 Census of Population questionnaires from field collection operations. Nearly 2,000 employees were assigned to ROP during the six-month production period.

5.2.2 Development

The objective of the development phase was to prepare processing and reference materials, forms, labels and training packages according to specifications provided. This phase also included recruiting and organizing personnel and making logistics arrangements. The development phase lasted from January 1985 to June 1986.

Resources

Allocation of resources for the development phase of ROP was based on the assumption that processing would be for the most part a repeat of 1981. Planned resources for the subject-matter and methodology areas were generally the same as in the previous census. The development staff consisted of a sub-task manager, several development officers and one support clerk.

Specifications

Specifications were submitted by subject-matter and methodology areas for coding and editing of items on the questionnaire, and for quality control requirements. The development of the procedures was an interactive process between various areas. Other specifications for the production of custom materials such as geographic products, forms, labels, reference documents and some supply items were also prepared.

Processing and Training Materials

ROP developed a variety of materials for use in the production phase. These included procedures manuals, training exercises and aids, administrative manuals and reference materials: 40

manuals in all, as well as 17 forms and 18 labels. Based on the 1981 experience, a more standardized approach and simplified format were developed, including flow charts, which clarified and summarized procedures. Training materials included a package of documents introducing the census and its processes. Reference documents used in coding were also restructured to decrease the research time.

An automated scheduling process was introduced for 1986 for the production of these materials, which facilitated effective control and the quick and efficient updating of the schedules. These schedules were prepared based on the work-load of authors and the support service areas, and the availability date of final specifications and other inputs. Schedules for the development of logistics requirements such as the acquisition of supplies and the shipping of materials to the sites and specialized services were also prepared.

Text production for all manuals and related materials was co-ordinated directly through the text production task. This task was responsible for typing, updating, proofreading and certifying all census manuals, forms and labels, and overseeing the translation service.

Logistics

The planning and arrangements for logistical requirements such as space, furniture, supplies, security and equipment required collaboration between STC and RCT. In all the offices except Ottawa, space for ROP was arranged within the RCT centres. In Ottawa, logistics were negotiated through the normal STC channels with Materiel Management and Accommodation Services. Estimates of requirements for storage, processing

and office space were based on workload, staff size and current government standards. Furniture was available at no charge in all sites. Most equipment needed for production was rented or borrowed from RCT. This included communication equipment, duplicating equipment, typewriters and calculators. RCT also provided office supplies as required.

Security

To meet the requirements for security as required by the Statistics Act, all reasonable precautions were taken to minimize, if not eliminate, the occurrence of violations of confidentiality of census data. Specifications were established which covered security requirements.

Personnel recruitment

ROP hired its processing staff, nearly 2,000 in all, for limited terms only, on a full-time basis. Staff were taken on in waves to coincide with the level of activities. Most processing staffs were therefore at full strength for some period between June and November 1986, depending on the operation assigned.

Processing staff were hired by a number of methods. The federal government stipulated the implementation of a program in which students and youth were hired under an exclusion order. In this way, salaries could be funded by the Student/Youth Program. This method was mostly used in Ottawa. In the regional processing sites, RCT provided lists of available experienced employees. Normal recruiting channels were also used in which the Public Service Commission refers potentially qualified candidates from their inventory lists for interviews and selection.

Personnel from inside STC as well as from RCT and Employment and Immigration Canada were seconded for more specialized positions, including managerial positions, and some administrative assistant and coding consultant positions.

5.2.3

Production

The production phase started in late June of 1986 with the arrival from the field of the first enumeration area (EA) boxes containing completed census documents. These were then channelled through five processing operations. The production phase ended in mid-November when documents from all EAs had been forwarded to Direct Data Entry (DDE).

This phase also included the training of newly recruited staff. Throughout processing, technical assistance was available to resolve problems as they occurred. Also essential was the continuous control of quality, productivity and work flow by means of the Management and Quality Control Information Systems.

Training

The cascade training method, whereby managers trained supervisors who in turn trained their clerks, was used in 1986. Each level received the same training in terms of operations with additional training for managerial and supervisory levels. All training took place during the first and second week after the processing staff were hired, and just prior to the start of the operation.

Class-room teaching was used to familiarize trainees with the technical requirements of their jobs. A structured approach to on-the-job training was introduced in 1986. Thus, after completing the class-room portion of their training, clerical staff applied the procedures learned to actual documents. During this time, production quotas were not monitored.

Other techniques included the use of transparencies, video and film presentations and lecture sessions. The newly introduced methods resulted in a reduced learning curve in most

operations, increased throughput rates and better quality in comparison with the 1981 Census.

Before technical training, a one-week information session for Regional Processing Managers was held in Ottawa. The objectives of this session were to establish general guidelines for negotiations with RCT, to discuss working plans and approaches to logistics and personnel requirements and to prepare production forecasts.

Description of Operations

Completed questionnaires and Visitation Records (VRs) from each EA were forwarded from the Field Collection Units to one of the regional processing sites. A series of five manual operations were carried out to prepare information for entry into the computer:

Operation 1 - Receipt, Registration and Shipment

Boxes of questionnaires were received, registered and prepared for subsequent flow through the other operations in ROP. The questionnaires were counted and the number of households verified. Materials were then shipped to the next operation.

Operation 2 - Document Preparation

Document preparation consisted of three major steps:

1. Each questionnaire was compared with its corresponding entry in the VR to ensure the two items were consistent.
2. Questionnaires were then groomed in preparation for computer entry. Grooming involved editing of multiple responses, ensuring all answers were legible, and marking the questionnaires with special indicators for the key-entry operator. All written responses to socio-cultural questions were

converted into codes. A separate referral coding operation was set up to code written responses to the question concerning relationship to Person 1.

3. These pre-entry and socio-cultural coding activities were quality controlled using a method of independent verification. During the first phase, known as noting, the noter groomed and coded a sample of questionnaires from an EA box. During the second phase, known as adjudication, the adjudicator compared the noting forms and questionnaires completed by the coder to ensure that the same grooming and coding actions were taken by both parties. Any discrepancies were recorded and the correct action determined. If, at the end of adjudication, the number of coder errors exceeded predetermined levels, the EA was rejected and returned for correction.

Operation 3 - Reverse Record Check

The objective of the Reverse Record Check was to estimate the number of persons missed during the census taking. This estimate provides data users with one indication of the reliability of the census results.

In this operation, selected persons from 1981 Census records were searched for in the current questionnaires to determine whether they had been enumerated. If not, further tracing operations were conducted at Head Office.

Operation 4 - Economic Coding

Staff were responsible for editing and translating into numeric codes all remaining written responses (Industry, Occupation, Major Field of Study and Class of Worker), for which elaborate reference manuals were required. A separate referral coding sub-operation was set up to handle the most difficult cases. This operation also had a quality control function comprised of noting and adjudication, similar to that used in Operation 2.

Operation 5 - Key Entry Preparation

The basic population, total number of households, and total number of forms in each EA were calculated. The statistics were recorded on a control form used in subsequent processing. The questionnaires were also labelled, sequenced and batched to facilitate the operations in the Direct Data Entry process.

Technical Assistance

A central assistance desk acted as the communication link between Regional Office Processing sites and Head Office. It received technical assistance requests from the sites, directed them to the appropriate subject-matter specialists and returned them, once resolved, to the sites. The desk was also responsible for maintaining national management and quality control information systems, transmitting technical communiqués, reports and ad hoc processing documentation to the sites, all by means of facsimile transmission.

Coding consultants provided technical assistance in the coding of economic variables. Recruited from Employment and Immigration Canada, they possessed the technical coding knowledge needed to provide this consultative service, and were then further trained in Ottawa by subject-matter specialists.

Further information on 1986 Regional Office Processing and its evaluation may be obtained from the document 1986 Census of Canada, Regional Office Processing Evaluation Report, Pre-capture Systems Unit, P. Proulx and G. Leclair, April 6, 1988.

5.3 Direct Data Entry

Direct Data Entry (DDE) is the transformation of data from all census questionnaires into a machine-readable format. Specifications were developed to implement the chosen data entry method, the system was developed and tested, and finally the data were entered, verified and stored on tape.

Security procedures were enforced at all times. A debriefing critique and subsequent evaluation report concluded the operation. (A processing flow chart is presented in Figure 15.)

5.3.1 Determining Data Entry Methodology

Due to the success of the key-entry system used in 1981, the 1986 system was modelled after it. Direct data entry involved the capture of numeric data (respondent completed and clerical coded) and alphabetics (for postal code) directly onto disk from the source terminals. Once loaded, the data were then transmitted from the outlying sites to RCT headquarters, Ottawa, using privately leased lines. The captured data were copied onto magnetic tape and transported daily by bonded carrier to STC, Ottawa.

5.3.2 Security Considerations

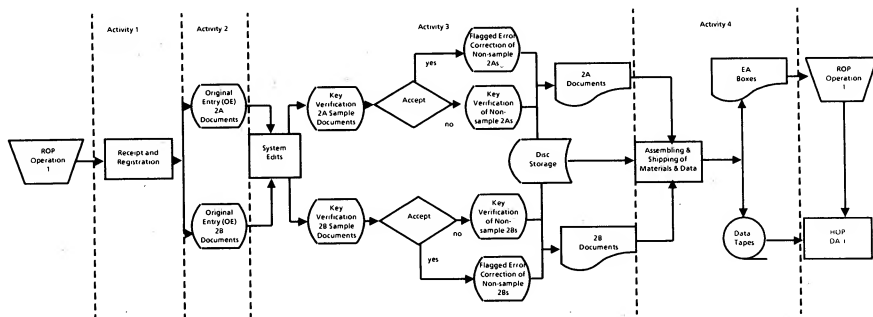
To meet the requirements for security as required by the Statistics Act, all reasonable precautions were taken to minimize, if not eliminate, the occurrence of violations of confidentiality of census data.

Specifications were established for RCT covering general security and data security requirements. During system development, testing and production, STC staff in conjunction with RCT staff monitored each aspect to ensure the operation remained secure.

5.3.3 Specifications

The 1986 Census Direct Data Entry Specification Book, defining the requirements of RCT and STC, was developed over an eight-month period and delivered to RCT on February 8, 1985. It contained detailed specifications covering the planning/production framework and working assumptions; work-load and

Figure 15. 1986 DIRECT DATA ENTRY PROCESS FLOW DIAGRAM



RCT CONTROL SYSTEM

distribution by centre; milestones and input schedule; system specifications and keying instructions; input and output; Management Information System (MIS); security; observation and evaluation; system testing; and special keyings (Edit Sample Study, Outgoing Quality).

Changes and modifications to the specifications were required as the system was being developed. Since these specifications were, in effect, the detailed terms of reference for both departments, it was essential that they be kept current. As a result, the following amending procedure was established. Each specification update contained a covering memorandum referencing the amendment number, a summary sheet of the amendments (containing page numbers, item numbers and descriptions of the changes) and updated copies of the pages from the specification book that were affected by the change. In this manner, the seven specification updates (over a 1 1/2 to 2-year period) were made.

5.3.4 System Development and Testing

The 1986 Direct Data Entry system was modelled after that used in 1981. First, the specifications as determined by the 1986 DDE Specification Book were reviewed by RCT. The data entry and verification system for the census, along with the appropriate operational control modules, were then developed by RCT. After review and testing of the system, it was refined to become the 1986 Census Data Entry System.

The design for the DDE system was divided into three main parts: the system process, the record layout, and the batch control cycle. For each of these parts, RCT provided design documents for review by STC.

Since the system was very detailed, it was necessary to have a structured testing program. Testing during the development phase can be separated into the following four main stages:

- (a) **Modular Test** - Modular testing was done in July 1985, to ensure the system satisfied all requirements of the specifications and that the system was ready for the 1985 integrated system test. Follow-up testing of problem areas was done as required.
- (b) **Integrated System Test (Oct. 1985)** - The major purpose of this test was to implement the system in all seven RCT centres. In addition to ensuring that the specifications had been incorporated into the automated systems (original entry, verification, MIS), incoming and outgoing error rates were confirmed, production rates were tabulated, document preparation outputs were reviewed and administrative procedures were monitored. Integration with the post-capture systems was also verified.
- (c) **Modular Testing for 1986 Pre-production Test (May 1986)** - The May testing reran the data from earlier testing. It focussed on the components identified in the 1985 test that required modification. Its objective was to ensure that all specifications and subsequent amendments had been incorporated and that the system was ready for the pre-production test to be implemented at the RCT sites.
- (d) **Pre-production Acceptance Testing (June 1986)** - This test ensured the system was operational in all centres, verified the results from the May 1986 test and enabled STC to review the overall system before accepting it for production.

The testing program was considered to be one of the major components in the overall developmental process. The thoroughness of the program resulted in minimum intervention during the production operation.

5.3.5 Staffing and Training

RCT completed the staffing and training of the operators and supervisors during the first two months of the operation (August to October 1986). Not only did initial throughput rates result in the need to staff only 929 of the originally planned 1,510 positions (located across Canada), but also no restaffing of operators who left before the end of their term was required. With the exception of special data entry operations scheduled to be completed in Ottawa after the main production operation (i.e. data entry of Form 2C, and some Indian reserve questionnaires and questionnaires required by the Edit Sample Study), the work-load was completed as planned by mid-November 1986.

5.3.6 Production

The production phase of DDE began in August 1986. Questionnaires were received and registered, and the data key entered, verified and stored on tape. By November 1986, all documents had been assembled and shipped back to their respective Regional Offices. The tapes had been transferred to STC, Ottawa.

Activity 1: Receipt and Registration

The implementation of DDE started with the receipt of enumeration area (EA) boxes containing coded, groomed, labelled and batched questionnaires, and appropriate control forms from ROP in August 1986. The transmittal slip received with each shipment/transfer of EA boxes from ROP was manually verified by the RCT Inventory Control Supervisor (ICS) to ensure the correct number of EA boxes and the correct listing of EA numbers had been received. All discrepancies were resolved by liaison with ROP. The EA was then registered into the control system, assigned to a keying unit (a group of 20 terminals and operators under the control of a supervisor), and placed in storage by the ICS to await original entry. A total of 44,061 EAs were received and registered in this manner.

Activity 2: Original Entry by Operators

Original entry involved the initial capture of the data into the system. For the 1986 Census, it was entered off the document in two formats: fixed keying format and string keying format. The former involved entering the questionnaire cover data and block identifications into a fixed positional record. The latter entered the person and housing data in variable sized records using control characters to separate the individual data. To facilitate the entry, both formats were structured and presented on a terminal screen.

To begin data entry, the DDE operator gained system acceptance and security clearance. Once the nine-digit EA identifier and sequence number of the first document in the batch were entered and accepted, an original entry screen, corresponding to the document Form 2A/2B or 2C, was displayed. The operator then entered the sequence number of the document being worked on, followed by the remaining cover data, and the balance of the document. A new screen displayed instructions to key the next document. This continued until all documents in the batch were keyed. The original entry operation resulted in the capture of data from 9,800,000 documents.

Activity 3: Key Verification (KV)

Key verification was required to ensure an acceptable level of outgoing quality at the question level. The verification was divided into two segments: system edits (which were performed in parallel with original entry) and sample verification.

System Edits - As the information was keyed in, the system automatically checked for valid household numbers, correct document type and validity of the data (for example, correct length and range of codes, all numeric data except in postal codes where letters were allowed). Any suspected errors were flagged by the system to be reviewed as part of the sample verification process.

Sample Verification - Sample verification or key verification was a control on the quality of the information keyed in the original entry phase. The system identified a number of documents from a particular batch of questionnaires for the operator to rekey. The system compared this second entry with the original keying. This sample document had to be accepted by the computer before the operator could proceed. If the sample documents were accepted, then the operator passed through the entire batch checking the suspected keying errors flagged in the first stage. If the sample was rejected, then the operator had to rekey all of the documents in the batch. After verification, data were transmitted to RCT, Ottawa.

Activity 4: Assembly and Shipping of Materials and Data

Assembly and shipping of materials occurred for two items, the data tapes (Ottawa only), and the EA boxes (in all centres).

Data Tapes - The EA data captured during the data entry operation were transferred daily onto magnetic tapes (maximum 100 EAs per tape) at Ottawa, RCT. Prior to making the tape available to STC, RCT prepared a back-up copy to be retained for 14 days. The tapes were placed in a carrying case, secured with a lock and held for pick-up by STC Head Office staff. STC had one week upon receipt of the tape to approve its readability. A total of 660 tapes containing respondent data were transferred in this way to STC.

EA Boxes - Preparation of the EA boxes started with the return of the batches and their control forms to the correct EA box. Once system clearance for the release of an EA was gained, and the appropriate control forms, labels and transmittal slips were actioned, the EA boxes were returned to their respective Regional Offices.

A more detailed presentation of the Direct Data Entry operation and its evaluation can be obtained from the document entitled "1986 Census of Canada, Data Assimilation Task, Direct Data Entry, Evaluation Report" (St. John/Fyffe/van Baaren/Janok, June 1987).

5.4 Head Office Processing

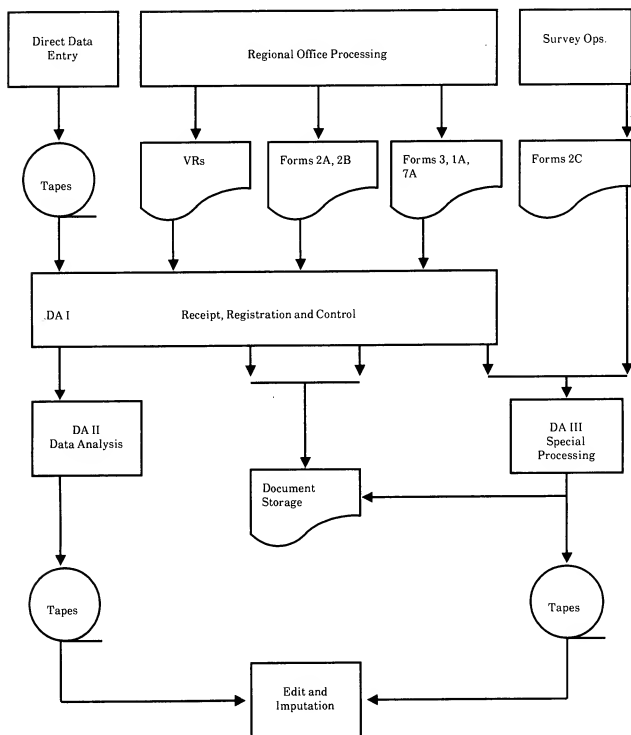
5.4.1 Scope and Objectives

Head Office Processing (HOP) combines automated and manual processes to carry out two basic functions: (a) to perform automated analysis on all questionnaires at the EA, household and person levels, and (b) to process special enumeration returns, i.e. census questionnaires received from persons living outside Canada, temporary residents, and persons on merchant, naval and coast-guard vessels. Production processing began with the receipt of EA boxes containing respondent-completed questionnaires and Visitation Records from Regional Office Processing. Magnetic tapes containing data from the questionnaires were received from the Direct Data Entry operation. The magnetic tapes were loaded into the computer for further processing. Data analysis, the next step in the production process, included the performance of structural checks at the EA, household and document levels for the reconciliation of counts. Special processing of questionnaires for Canadians outside Canada and on ships, as well as for persons away from their usual place of residence on Census Day, also took place. Finally, data tapes were delivered to the Edit and Imputation Task for further editing. (See Figure 16, a flow chart of the operation.)

5.4.2 Development

The developmental phase for HOP included preparing specifications, developing the automated system based on these specifications, and testing to ensure that the system would function

Figure 16. 1986 HEAD OFFICE PROCESSING PROCESS FLOW



according to specifications. As well, this phase included the preparation of processing materials and arrangements for logistics, security and staffing. The development phase took place from April 1984 to June 1985.

Specifications

For 1981 and previous censuses, subject-matter and methodology areas supplied the developer, HOP, with the specifications regarding data analysis and errors resolution. HOP then developed a system to perform these functions. Because the 1986 Census was a repetition of the 1981 Census, instead of having subject-matter or methodology areas write them, HOP supplied the specifications. The new specifications thus reflected the existing systems, as well as limited changes and modifications, which were clearly documented.

System Architecture

After the acceptance of the various system specifications, the system design, or architecture, was developed, together with a user's guide which served as a reference on how the HOP system operated. A major development change was the redesign of the system using four sequential networks, one for each geographic region. This change allowed for an uninterrupted flow of work through the system, as hold-ups for one region did not affect processing in others. Clerical staff were therefore also supplied with a continuous stream of print-outs for review, and the end result was a more efficient and effective use of computer and human resources.

At a later date, a detailed account of the operating system was given in the system architecture manual. Both the user's guide and the system architecture manual will serve as bench-marks for creating the 1991 HOP system.

Testing

(a) Modular Testing

The objective of modular testing was to test a specific system module against its corresponding specification to identify and resolve problems. (A module can be defined as a stand-alone activity, or one which has absolute input/output activities.) During the design stage, 15 modules were selected and tested individually.

(b) Integrated Testing

Integrated testing determined whether the individual modules of the overall system could be integrated with the production process flow and operate as a unit.

The test data contained pre-identified errors and reflected specific conditions to be expected in regular processing. The data were submitted through the data analysis program and the inconsistencies then resolved.

(c) Preproduction Testing

The main objective of pre-production testing was to run all modules in a simulated full production environment. Thus, it was essentially a volume test, using the actual hardware which had been installed for use during the production phase of Head Office Processing.

As a result of this test, a priority processing strategy was established to achieve the required 1986 throughput target.

Processing Materials

All processing manuals, training guides and supplementary administrative and reference manuals, 16 in total, as well as seven related forms, were written or designed by the development officers in HOP. They were then submitted to text production and proof-reading units located in close proximity, allowing for efficient communication. In addition,

an automated reporting system was developed to track manuals and forms through all development steps.

Logistics

Development of logistical requirements for the production phase of HOP consisted of the identification and requisition of:

- space to accommodate office staff as well as shelving for Visitation Records and EA boxes;
- operational supplies consisting largely of standard office supplies;
- EDP requirements comprising hardware, such as controllers, screens and terminals, data storage space on disk and tape, and CPU processing units.

Security

Security arrangements were established on two basic fronts: physical security, i.e. access to and from the restricted area, including movement of personnel and materials, and security relating to the automated system.

Arrangements were made to have a security clearance for those employees whose duties included direct access to the automated system's hardware.

Staffing

Approximately 100 persons were recruited as temporary processing staff. To coincide with the staggered start-up of the processing operations, they were hired in several waves, for some period between July 1986 and January 1987, depending on the duration of the operation to which they were assigned.

HOP also participated in the Student/Youth Employment Program. Efforts were made to obtain an exclusion order from the Public Service Employment Act. The bulk of the staff were hired in this manner; however, if additional staff were required, non-student youths were hired through the Public Service Commission.

5.4.3 Production

The production phase began with the training of processing staff, followed immediately by the three operations that make up Head Office Processing. Also included was the implementation of the Management Information System, which monitored and controlled quality and work flow. The production phase started in July 1986 and was completed in January 1987.

Training

The cascade approach to training was used for data analysis, DA I and DA III staff. Managers trained their supervisors who, in turn, trained their clerical staff. Due to the complex technical nature of DA II, managers performed the first phase of the training to ensure that the basic concepts were understood by trainees.

Class-room instruction, which included technical aspects of the operation and administrative matters, accounted for one week of training of supervisors. Additional time was used for on-the-job training and practical experience, prior to the arrival of the clerical staff.

The basic format for the clerical training was the self-instruction approach using training guides. An instructor was available for guidance and exercise correction. Various other training methodologies were used to introduce variety in the training program and to stimulate trainee interest and participation. These included:

- audio-visual presentations to familiarize new employees with the census process,
- on-the-job training, for experienced terminal operators who required practical training rather than a theoretical approach,
- a fictitious or "mock" EA that consisted of questionnaires and VRs with inconsistencies built in for practice processing. This methodology was most effective: it not only provided an opportunity for practical application of newly learned procedures, but it also provided trainees with relevant feedback on their comprehension of procedures.

Description of Operations

The HOP process flow can be divided into three main sequential phases: DA I, DA II and DA III.

DA I - Receipt, Registration, Microfilming and Storage

DA I encompassed a number of activities. Primarily, it was the focal point for monitoring and controlling the automated processing system. The three components of an enumeration area (EA) - RCT data tapes, Visitation Records (VRs) and questionnaires - were received in DA I and registered through an on-line system. From that point on, the movement of each component was closely monitored by way of registering each component in the automated system as it passed from one physical location to another or from one automated processing step to another.

DA I was also responsible for the temporary and permanent storage of all VRs, EA boxes and EA review print-outs.

Terminal operators in DA I, in addition to keying in the movement of EA components through HOP, were also responsible for keying updates to the data base, which were generated as a result of the clerical review in DA II.

Finally, DA I staff transcribed from the VR the names and addresses of all collective dwellings within an EA from the VR to a name and address file, once the EA had been accepted by the Data Analysis Program. This file later merged with other files to create the Collective Dwelling Listing File.

DA II - Data Analysis

Data captured for each EA were subjected to structural edits through a batch computer processing system. The combination of edits performed is known as the Data Analysis Program. Failure of any of the edits resulted in the generation of an error listing that detailed these inconsistencies (for example, when the person count on the front cover of the questionnaire did not equal the number of persons listed inside). The print-out was then clerically reviewed, along with the questionnaires and VR, and inconsistencies were resolved through on-line changes to the EA data and/or control data. When the EA reached an "accept" status, the data were reformatted and transferred to the Edit and Imputation system.

DA III - Special Processing

This operation dealt with special types of questionnaires not processed in the Regional Office Processing sites, i.e. questionnaires received from Canadians living outside Canada or on ships and from respondents who were temporarily away from their usual place of residence on Census Day.

A sample of those temporarily absent from their usual residence was traced to determine whether respondents had been enumerated at their usual place of residence. Results of this tracing process indicated the number of people who had not been enumerated and would therefore have to be added to the final data base.

For persons outside Canada on Census Day, their questionnaires were coded, grouped into special EAs and processed through the normal data capture route.

For persons on board ships on Census Day, forms were sorted into two groups, depending on whether they had a usual place of residence in Canada. Those who indicated that they had were processed in the same manner as those temporarily absent from their usual residence. Those indicating no usual residence were coded, grouped into special EAs and sent through the normal data capture process.

The Head Office Processing Sub-task is described and evaluated more fully in the 1986 Census of Canada, Head Office Processing Evaluation Report, by E. St. John, M. Voisine and S. Fyffe, October 5, 1987.

savings in planned resources. In fact, data assimilation was completed on January 9, 1987, five weeks ahead of schedule. Milestone dates provided realistic target dates, which were used to monitor and control all activities pertaining to data assimilation.

Further resource savings and possible gains in time savings are expected to be realized in future censuses with the implementation of automatic coding. Research has resulted in a decision to implement the automation of many variables in 1991.

With regard to co-operation between Revenue Canada Taxation and Statistics Canada, there is consensus in both departments and between all regional personnel that implementation of the agreement worked well, and can be repeated in subsequent censuses.

5.5 Critique and Evaluation

A number of changes instituted following the 1981 Census resulted in early completion of some operations, and

6. EDIT AND IMPUTATION AND DATA BASE CREATION

6.1 Scope and Objective

The goal of the Edit and Imputation (E & I) Task was to transform captured census data into statistical data bases devoid of invalid, inconsistent and missing responses. This was accomplished by processing the collected data through custom software systems designed to detect and correct errors. The resulting statistical data base was then ready for the Output Project (i.e. application of the resulting data for retrieval, tabulation, dissemination and analytical purposes).

Edit and Imputation refers to the detection (editing) and the correction (imputation) of errors within the census data. In this process, all data items are subjected to edit rules to determine their validity. Missing or invalid data detected in specific records are replaced by statistically valid data.

In content and scope, this task consisted of processing the 100% and 20% sample data as captured on the 1986 Census questionnaires and deriving various weights for adjusting final counts and/or sample counts.

The task included planning, development, testing, live production, verifying data and creating the retrieval data bases. The E & I Process Work Chart is presented in Figure 17.

6.2 Planning

The planning stage involved the delineation of planning assumptions, milestones, resource requirements and task organization.

Assumptions

The 1986 E & I Task assumed the principle computer systems from the previous census would be reused for the 1986 Census. Modifications were only

to be made to correct known defects or significant data quality problems.

The task assumed that the larger volume of data processed for the 1986 Census (i.e. more persons, households, and enumeration areas) could be handled by simply adjusting the same computing systems.

Milestones

The development stage was to start in July 1985, and to be completed by February 1988. Production was scheduled from September 1986 to March 1988. These overall milestone dates were met, indicating that the target dates were realistic.

Resource Requirements

Resource requirements were identified for all stages of the project, for all personnel from the various areas providing input to the task, for all production staff, as well as for computer resources consumed during testing and production.

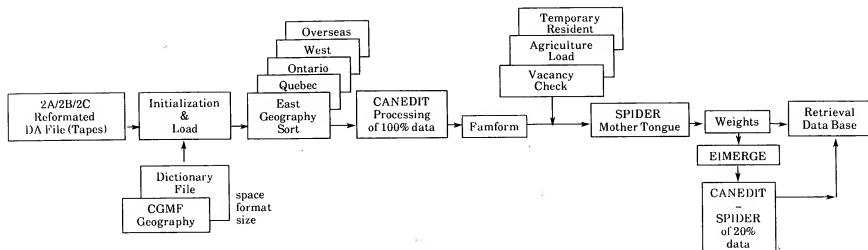
Task Organization

The structure to control the 1986 E & I Task comprised a number of task members under a Task Manager. The team members were drawn from various disciplines, including representatives from three subject-matter divisions, from Informatics Services and Development, Social Survey Methods Division, and from Census Operations Division. Each provided input and expertise relevant to their respective disciplines.

6.3 Development

Existing systems were adjusted, modified and tested in accordance with E & I specifications developed for the 1986 Census.

Figure 17. EDIT AND IMPUTATION WORK CHART



Loading

Initialize bases
5 from geography sort
3 levels (EA, Hhld; Pop.)
2 Phases (100%, sample)
Load data as per dict. defines
Back up bases
Produce output tabs. (using
STATPAK) for data verification

Edit & Impute

- Phase 1 almost completely CANEDIT driven
- Stratify common characteristics (hhld; persons)
- Run edit rules
 - single unit (1 person only)
 - multi-unit (between person editing, same Hhld.)
 - stratification (3-person Hhld., blood relations, mixed family)
 - auxiliary constraints (locate donor and control selection)
- Phase 2 almost completely SPIDER driven
 - pre-derive (resolution of multiple responses)
 - edit (good/bad relations established based on decision tables)
 - impute (hot deck approach using donor records)
 - post derive (clean-up at family levels after initial imputing at person level)

Weights

- Geog. identification weighting areas
- System calculates weights to increase sample data to 100%

Retrieval Base

- Merging of E&I Bases includes
 - EA
 - Hhld.
 - Person Relations

Software

RAPID - data base management system

SPIDER } edit and imputation software
CANEDIT }

SAS - facilities, MIS & other admin. reports
STATPAK/TARELA - retrieval system
Statape - quality checks

Special Operations

- Agriculture file of farm ops. matched with E&I file → non-matches sent to agriculture for review
- Reconciliation of Counts DA/Geog./E&I
- Family formation - classifies persons to families
- Temporary Resident Adjustment
- Vacancy Check Adjustment

Specifications

The specifications for processing the respondent data were supplied by the various subject-matter divisions that had provided the respective questions for the 1986 Census. They were delivered to the task in two parts: a written text or narrative specification, and decision table modules. These specifications indicated the editing rules to be applied to each variable. The degree of detail in the narratives varied. Generally speaking, detailed narratives were written for variables being processed for the first time or for which processing was being extensively modified. Narratives for variables that had been processed in previous censuses and that were being modified to a lesser extent were usually updated versions of the 1981 narratives. The decision tables presented in tabular format the possible range of responses to a question and the corresponding action.

Processing Systems

Informatics Services and Development Division under the task's sponsorship provided the processing systems. Census Operations Division provided the processing knowledge and techniques to co-ordinate the processing of the input data into the data bases used by the Output Project.

Testing

Acceptance Testing

Acceptance testing ensures that a computing system meets the user's specifications and that it is delivered to the user at an acceptable level of quality. Acceptance testing of selected modules confirmed that they performed as required.

Volume Testing and Integration

The primary purpose of volume testing and integration was to evaluate the performance of the software to be used in production and to establish production procedures and strategies. The volume test data base consisted of 1981 data for Nova Scotia modified to meet the 1986 specifications. It represented approximately 2.7% of Canada's total EAs - a fraction of production volume, but enough to simulate production.

All modules underwent volume testing. Once the volume testing was successful on each module and analysis was completed, the statistics were used to establish production strategies which would be integrated into the production environment.

6.4

Production

The production stage consisted of receiving the original data entry tapes from Head Office Processing, reading and transforming these data into a data base, performing edit and imputation processing, and delivering the resulting "cleaned" data. These data were delivered in two data bases - one for data captured and processed from Form 2A (100% coverage) and one from Form 2B (20% sample) - both ready for the Output Project. Processing of data was closely monitored and controlled.

Edit and Imputation Process

E & I processing was divided into two phases. Phase I processed data captured from the short form (2A) 100% responses. Phase II related to the processing of long form data (2B), completed by 20% of the population. For each phase, five regional data bases were created, each containing data for enumeration areas, households and persons.

In the edit process, each unit of population data was passed through a set of edit rules which determined whether a record was 'good' (it passed edit) or 'bad' (it failed edit due to invalid data or non-response). Invalid data, for example, would be present if a three-year-old child were reported with high school education. All bad records were flagged for imputation. At the imputation stage, a systematic search was made for the best possible donor record, i.e. the record with the most similar combination of data characteristics. Good data from this donor record were used to replace the invalid data or to provide missing data. After imputation processing, any remaining bad data were subjected to a final correction procedure.

The totally automated process was driven by several generalized software packages, a data base management system, two edit and imputation systems as well as some specially developed programs.

Data Base Management System

The data base management system is a computer software package developed by Statistics Canada called RAPID (Relational Access Processor for Integrated Data base) and is available only to government agencies.

RAPID is a relational data base and the data are stored, from a user point of view, in a matrix format consisting of rows and columns. The columns correspond to actual data variables such as age and marital status. The rows contain identifiers related to a unit, i.e. enumeration areas, households and persons.

Edit and Imputation Software

CANEDIT

The requirements of the E & I Task were quite unique and there were no existing commercial packages available to meet these special needs. For the 1976 Census, STC developed a generalized package called CANEDIT. It allowed subject-matter areas to edit and make imputations using the same overall strategy, yet applying variations as required for each variable. CANEDIT was used to perform edit and imputation on Phase I (100%) variables, mother tongue excepted. It was also used for processing the following Phase II (20%) variables: some labour force and education characteristics, and dwelling characteristics.

SPIDER

For both the 1981 and the 1986 Censuses, the questionnaires were more comprehensive than those used in the past. More variables were to be edited and CANEDIT was unable to handle the new requirements. As a result, SPIDER was developed to process data that contain lengthy code lists and numeric data such as income.

Retrieval Data Base Creation

Upon completion of E & I processing, the five regional data bases contained both the unedited or raw data, as well as the final imputed data. The next and final step of the entire E & I process was to create the retrieval data base, which contains only the edited, or clean, data. This was done in waves as processing for sets of variables was finalized.

6.5 Critique and Evaluation

Edit and Imputation processing was completed within budget, and approximately six weeks earlier than scheduled, an accomplishment that can be credited to effective management, few data quality and processing problems, and the early completion of Data Assimilation.

As well, an automated tabulation retrieval system was implemented. This system greatly streamlined the process by which tabulations for the purpose of data verification by subject-matter specialists were obtained.

For a more detailed description and evaluation of the Edit and Imputation Task, please refer to the following documents: the guide for the Edit and Imputation Tour, 1986; User Information Bulletin No. 3 entitled Methodology for Producing Census Sample Estimates (re 'Weighting' process) and the 1986 Census of Population and Housing Edit and Imputation Evaluation Report (Final) by D. Hollins, November 1988.

7. DATA QUALITY

7.1 Types and Sources of Error in Census Data

Results from the Census of Population, like those from any statistical survey, are subject to inaccuracies. Errors can arise at virtually every stage of collection and processing. While quality control measures can be built into the various operations, some degree of error in the final data is inevitable. Hence, it is important for both the data producer and the data user to have estimates of errors and thereby evaluate the quality of resultant data.

There are several benefits to be derived from error evaluation. Such evaluations can identify problems requiring modified procedures in future surveys. Information obtained from these evaluations can also be presented to data users to provide them with an appreciation of the principal sources of error and their impact on the data, thus avoiding misuse or misinterpretation. Furthermore, the evaluation results can sometimes be used to improve the survey estimates.

Various methods can be used to assess the quality of census data, and in recent Canadian censuses, STC has employed a number of approaches. The following sections outline the evaluation studies conducted for the 1986 Census, which together make up the Data Quality Program. There were two main parts to this program:

- **certification**, which involved a limited assessment of the quality of each census variable prior to its public release;
- **measurement studies**, which included a number of activities designed to evaluate particular sources of error, and for which results are not usually available until after census data have been released.

7.2

Certification

Certification is the critical review and quality assurance task conducted prior to the public release of the census data. The objectives were:

- to identify and plan statistical analyses that will best certify the quality of census data;
- to ensure these analyses are completed satisfactorily and the results are documented adequately;
- to provide census management with documentation and recommendations necessary to enable an informed decision regarding the data presentation and release.

Because of various constraints, the certification effort concentrated on univariate distributions at the national and provincial levels. Important multivariate distributions were also examined, together with a limited number of subprovincial analyses.

7.2.1

Verification Strategies

Two verification strategies were used, namely, numerical verification and interpretative verification. In numerical verification, census data distributions were compared with those of other data sources or previous censuses. In certifying the 1981 Census, expected distributions were derived; cells that did not meet pre-established tolerance levels had to be examined and explanations documented. In 1986, less emphasis was placed on numerical tolerances, but the general principle of examining the coherence of census data with other sources was followed.

The interpretative approach focused on logic, experience and intuition to certify the soundness of the data and their plausibility in relation to expectations. In this case, however, the expectations were qualitative rather than quantitative, and were derived from a broad system of knowledge.

In all cases, the analysis was supported by basic quality checks such as reviews of response rates and pre- and post-imputation distributions.

7.2.2 Benefits

The aim of these procedures was to reduce the risk of publishing grossly misleading data, and to allow the users to be notified of potential problems or differences between the census and other data sources. The review also served to identify problems that might require a more detailed investigation.

The follow-up on the aboriginal status variable provides a good example of how a data quality verification can prevent the release of misleading data. The 1986 Census included a new question on aboriginal status (described in Section 11.4). When responses were tabulated and reviewed prior to certification, certain counts were found to be suspect. A telephone follow-up of a small sample of suspect responses confirmed that many aboriginal responses were incorrect because people had misunderstood the new question. On the basis of this study, STC decided not to release the results of this question.

As a further benefit, information on data quality problems occurring in the 1986 Census can be fed into the appropriate planning and development activities for the 1991 Census.

7.3 Measurement Studies

The following is a brief overview of the various data quality measurement studies conducted for the 1986 Census. These activities have been grouped into the following categories of error: coverage, content (i.e. non-response, response and processing errors) and sampling. Some measurement studies yield information on both coverage and content errors.

7.3.1 Coverage Studies

The primary purpose of a census is to provide counts of the population at various geographic levels. Errors in coverage are therefore of special concern. The purpose of coverage studies is to measure the extent of coverage errors, which occur when dwellings or individuals are missed, incorrectly included or double-counted.

(a) Vacancy Check

Incorrect classification of dwellings as unoccupied has been a major component of coverage error in past censuses. Some occupied dwellings may be incorrectly listed as unoccupied, thus contributing to undercoverage of dwellings and the people resident in them, whereas certain uninhabited dwellings or structures not fit for year-round occupancy may have been included, contributing to an overcount of the housing stock.

The Vacancy Check was a study in which a sample of approximately 1,350 EAs was selected, and all 'unoccupied' dwellings within them revisited. Each visit verified whether or not the dwelling was occupied on Census Day and, if not, whether the structure met the census definition of a dwelling. Based on the results, estimates of the number of occupied dwellings incorrectly listed as 'unoccupied' were obtained. Adjustments were made accordingly to population and dwellings counts.

According to the 1986 Vacancy Check, about 48,000 unoccupied dwellings were in fact occupied on Census Day (about 9.5% of the total number of dwellings). This misclassification yielded an estimate of 94,000 persons missed.

(b) Temporary Residents Study

Persons who on Census Day were staying somewhere in Canada other than their usual residence were asked to complete a temporary resident's questionnaire at that dwelling. These respondents were asked for basic demographic information plus the address of their usual residence. A sample of these forms was selected and the census questionnaires corresponding to the addresses given were checked to ensure that the individuals were in fact enumerated at their usual residence. An estimate was made of the number of persons missed at their usual residence and an adjustment was made to the census data base to compensate for this undercoverage. (This process is also described under Head Office Processing, where it occurs.) The estimate of the number of persons missed at their usual residence is 76,000 persons.

(c) Reverse Record Check

Even after adjusting the number of occupied dwellings and temporary residents missed at their usual residence, significant undercoverage remained. The Reverse Record Check (RRC) was the primary means of measuring this residual undercoverage. A sample of about 36,000 persons was selected from previous census records, intercensal births, immigrants and persons missed in the previous census (obtained from the 1981 RRC). These persons were traced by various means to their Census Day address and the corresponding census questionnaires were searched to determine whether or not they were enumerated in the census. Although no adjustments were made to census data, the resulting estimates of the total number of persons missed in the census did provide an important indication of undercoverage.

In 1986, undercoverage at the national level (i.e. for the 10 provinces) increased by over 1% from 1981, from 2.01% to 3.21%. Among the provinces, British Columbia had the highest rate (4.49%) while Newfoundland had the lowest (2.01%). For both sexes, the 20- to 24-year-age group had the highest undercoverage rate. (Further information can be obtained from User Information Bulletin No. 2 - Undercoverage Rates from the 1986 Reverse Record Check, July 1988.)

(d) Overcoverage Study

In the 1986 Census, an experimental Overcoverage Study was attempted. The objectives were to determine whether or not overcoverage was a significant problem in the census and to identify the principal causes of overcoverage error. The main component of this study was a re-enumeration of a sample of occupied private dwellings to identify other possible addresses of persons, e.g., for those who moved on or close to Census Day, addresses of second residences, addresses for purposes of work or study, or at which household members were visiting around Census Day. Census questionnaires for these addresses were searched to identify duplicate enumerations.

A second component of the study involved persons listed as usual residents at certain types of collective dwellings (hospitals, jails and treatment centres for the handicapped). Where possible, a previous or permanent address was obtained, and the corresponding census questionnaires were searched. No estimates of overcoverage were available as of this writing.

7.3.2 Content Studies

Content studies are conducted to evaluate the quality of data for each question. The results include measurements of response rates, edit failure rates, and comparisons with estimates from other data sources.

(a) Response Rate Study

Response rates have been calculated for each variable from the E & I data base, and analysed by province and type of enumeration.

(b) Edit Sample Study

This study was based on a sample of 5,500 questionnaires returned in mail-back areas. The original responses were transcribed onto separate forms before questionnaires were edited and followed up by the enumerators. The study provided estimates of initial response rates, and the degree of field follow-up required.

(c) RRC Content Study

As described above, the Reverse Record Check involved selecting a sample from four frames: the previous census, birth and immigration files, and the previous RRC. As these persons were matched to a current census record, it was possible to compare the current (1986) census response to these alternative sources. For example, the two censuses can be viewed as independent replications of the same measurement process, and certain variables such as date of birth and sex should remain unchanged from one census to the next, except for response and processing errors. Discrepancies between the two censuses for these variables were identified and used to calculate various measures such as gross and net difference rates. Similar measures were calculated for selected variables from the other three frames.

(d) Overcoverage Content Study

As mentioned earlier, the 1986 Overcoverage Study involved a re-enumeration of a sample of private households. In each of these households, in addition to coverage-related questions, one household member 15 years and over was asked to provide information on language, ethnic origin and aboriginal status. The interviewer also recorded the structural type of the dwelling. The questions were more detailed than the corresponding census questions and provided an opportunity to evaluate the quality of the census responses and explore alternative approaches.

(e) Coder Bias Study

Census questions that allow for write-in responses were manually coded at the regional processing sites prior to data capture. The quality control procedure for this manual operation involved re-coding a sample of questionnaires from each EA. An adjudicator compared the two sets of codes and determined the correct code in the event of a discrepancy. If more than a specified number of errors were detected in the original coding, the whole EA was recoded. Information from this quality control operation was used to obtain estimates of coder bias for each variable and code.

(f) Other Studies

Other studies for the 1986 Census may be conducted depending on resources available and concerns raised in other evaluation studies.

7.3.3

Sampling Studies

Some census questions are asked of a one-in-five sample of households, rather than all Canadian residents. Estimates for these questions differ somewhat from the results that would have been obtained if the questions had been asked of the whole population. Sampling studies evaluated these differences.

(a) **Sample Variance Study**

This is the calculation of sampling variances for the sample questions on the long (2B) form at various levels of aggregation.

(b) **Sample Bias Study**

The purpose of this study was to check that the sample of households completing the long (2B) form was representative of all households, within the limits of sampling error, and that neither the enumerator nor subsequent processing steps introduced any bias.

(c) **2A/2B Consistency Check**

This consistency check examined discrepancies in the basic (2A) characteristics between estimates weighted up from the sample and 100% counts, for areas and subgroups of the population not controlled in the weighting procedure.

7.5

Critique and Evaluation

The measurement of data quality is an important part of the conduct of a Census of Population. Quality measures not only assist users in interpreting census data but also point to where improvements are needed in future censuses. The coverage evaluations in 1986 are a case in point. Faced with the increase in undercoverage in 1986, Statistics Canada is embarking on an extensive program to improve coverage in the 1991 Census. It is also apparent that the measurement of coverage error needs enhancement. In particular, a better understanding of the causes of under and overcoverage is needed.

7.4

Publication of Data Quality Information

Census data quality information is disseminated in two ways. All census publications include a section on data quality that examines sources of errors and provides cautionary notes for users. In some cases, estimates of the magnitude of errors are given - for example, estimates of sampling error. Information is also available in reports that summarize the results of data quality studies.

8. OUTPUT

8.1 Objectives

The objective of the 1986 Output Project was to deliver census data tables or publications for external users. In doing so, the project would respect and foster broader corporate objectives, including revenue generation. Unlike 1981, the project was to operate on a cost-recovery basis. As a result, census products and services were required to generate \$10 million over the 1985/86 to 1989/90 period.

Census products and services were also to be provided within pre-established cost and time guidelines. Efficient dissemination and the integration of census data with data from other programs were of prime importance. Specific objectives were:

- (a) **Time.** Data from the census were to be available within the same time frame as in the 1981 Census (i.e. preliminary population counts in January 1987, 2A data in July 1987 and 2B data in March 1988).
- (b) **Cost.** The entire array of products and services was to be produced at a maximum cost of about \$10 million. This included the cost of producing all products and services (including special requests) over the period 1984-85 to 1988-89.
- (c) **Dissemination.** The products were to be produced in a fashion that allowed for their efficient dissemination by both Bureau and non-Bureau "vendor" organizations. Where feasible, the products and services were also to be designed and produced to permit the efficient integration of census data and data from other Bureau programs (e.g., Small Area Data, Target Groups).

8.2 General Planning Assumptions

The following initial planning assumptions were made. First, the 1986 budget was to be approximately 70% that of the 1981 Census. The preplanned 1986 print products were to be reduced to approximately 25% of the total volume produced for the 1981 Census. The result of this reduction was to be an almost completely revamped printed series at the Canada and the provincial level. A substantial portion of the 1981 provincial and national series were eliminated with a few notable exceptions, e.g., the all census subdivision publication. There were to be no microdata files or microfiche in 1986. Instead, these data would be available from a more flexible system of semi-custom and full service custom outputs. "Place of work" data were not to be produced unless it could be done on a fully cost-recovery basis (including coding costs).

The same basic data retrieval system, STATPAK, and to the extent possible, the same production system employed for the 1981 Census were to be used for 1986. Modifications would only be made if they resulted in cost-savings, increased revenue-generating potential, minimized risks or improved quality. Some new software could be acquired to improve efficiency. Based on these assumptions, the development of the product line began.

8.3 Product Determination

All census products and services (analytical products excepted, since these were the responsibility of the Research and Analysis Project) were the result of a variety of activities including market analysis, user consultations and task forces. The existing retrieval system also had an impact on product determination. The final product and service line is detailed in Appendix E.

In early 1985, the Output Team prepared a discussion paper Products and Services of the 1986 Census: Preliminary Plans. It was sent to data users, many of whom responded to the general proposals it contained. The team then investigated a number of new options; some ideas took root while others withered.

Cost implications had to be carefully assessed for census products and services since expenditures on production and dissemination had to be fully recovered. Therefore, any planned product, be it a publication, tape or diskette, needed to be justified on the basis of widespread demand. Data in limited demand were therefore suited to other dissemination formats, which not only had lower production costs but also provided more flexibility for tailoring products to user requirements.

The Output Team was concerned about user requirements during the critical time when products were being planned as well as in the long term. Therefore, the team made every attempt to maintain good communications with data users.

Data Publications

In the Preliminary Plans, three series of data publications were proposed: population and dwelling counts; census subdivision (CSD-municipality) profiles; and a "Canada and the Provinces" series designed to show the scope of census subject-matter.

In response to the Preliminary Plans, data users stressed the need for sub-provincial data in publication form, especially at the census tract and census metropolitan area levels. There was substantial interest in products presenting data on a particular topic (e.g., the elderly, the labour market). The inclusion of historical data, where feasible, was also indicated.

A tentative list was drawn up accordingly. In general, the publications proposed for 1986 were built upon the successes of 1981. This approach was taken to minimize the impact of any reduction in the number of data publications.

The most popular 1981 series, The Profiles, presents univariate distributions of data for standard geographic areas. In some cases, indicators such as percentages and rates are also shown. Although the original plan called for the reduction of this series to CSDs only, response was such that a decision was made to not only repeat the entire series (i.e. profiles of the federal electoral district (FED), census tract (CT), census metropolitan area (CMA), census agglomeration (CA), enumeration area (EA) and geographic areas), but also to add an urban/rural profile, to compensate for the elimination of these data from other publications.

The 1981 National Series, which illustrates the scope and depth of census information, was cut back from 37 to 19 publications and renamed The Nation series. It would provide national and provincial/territorial coverage of selected variables and cross-tabulations. This cutback was to be partially counterbalanced by the new Dimensions series that focused on particular topics. Data presentation varied from basic summary data to detailed breakdowns and cross-tabulations on geographic areas (CMAs), subpopulations (the elderly) or a subject (occupational trends).

The 1981 Census Provincial Series was eliminated, except for the popular Geographic Distributions publications. The remaining publications in this series were among the least popular 1981 Census bulletins. The tabulations were mostly for census metropolitan areas, census divisions and larger census subdivisions (10,000+). The interest in data for these larger subprovincial areas varied widely and often the characteristics and tabulations of interest varied by area. By not producing these data in publication format, resources could be allocated to the development of a more flexible system allowing users to obtain, on demand, subprovincial data more relevant to their local interests (see discussion of semi-custom products).

The final choices in publications are outlined in Appendix E. In the end, the number of publications for the 1986 Census was approximately 60% of the number for the 1981 Census. In some cases, content from several small publications was combined, resulting in approximately 80% of the 1981 content being retained.

The specific content of the publications depended on a combination of factors. Subject-matter personnel ranked in order of priority the tables they deemed essential for 1986. Choices were based on the need for continuity between 1981 and 1986, new content (e.g., major field of study) and provision of information or selected topics for which there had been substantial interest expressed. When the final specifications were determined, these factors combined with user feedback, production cost estimates, potential sales, and the technical feasibility of producing a particular table were all considered.

General Reference Products

The Output Team's general view on the importance of reference products was enthusiastically seconded by data users. Six publications or series of publications were proposed. This represented an increase in the number of reference products from 1981, which would help the data user community derive maximum benefit from census data.

Geographic Reference Products

Some of these products, e.g., reference maps, were in great demand while others were of interest to a relatively small group of data users. The Output Team investigated cost-effective ways of distributing these products. Use of the area master files (AMFs) would be negotiated on a contract basis. Listings of the street indexes would be produced on request, as previous demand was not sufficient to justify their production as standard publications. The CARTLIBS

(the digital cartographic libraries of the boundaries and related features of various geostatistical areas used by computer mapping programs) were to be produced if needed for an Atlas Series of thematic maps by special request. With the exception of the street indexes, most of the geographic reference products were retained.

Tapes and Microfiche

In response to Preliminary Plans, some users expressed concern that no magnetic tapes or microfiche for subprovincial areas had been proposed for 1986. The emphasis had been placed on offering a range of output modes for custom and semi-custom tables. This approach was initially taken because there seemed to be limited user interest in the massive 1981 output available on tape and fiche.

In response to user demand, both tables and profiles were produced in machine-readable format. Eleven 2A Basic Summary Tables released in December 1987 and 33 2B Basic Summary Tables released in the fall of 1988 were produced for EAs, CSDs and CTs.

Using the 1981 User Summary Tapes, together with information regarding user needs, subject-matter input and 1981 sales, the task created a proposed detailed list of tables. Subject-matter specialists reviewed the proposal, revisions were made and the specifications finalized.

Profiles with the same univariate distributions of data as found in the publications were released at CD, CSD, FED, CT, CMA and CA areas. An EA profile was also created based on the marginal distributions from the EA Basic Summary Tapes. The tables produced specifically for the release packages were also produced in machine-readable format (generally Canada, the provinces and territories).

Much discussion occurred about the appropriate media for dissemination. The result was that tapes were made available through the Electronic Data Dissemination Division (EDDD) for most standard geographies. A service was provided on-line to ROs to allow them to disseminate selected popular tables. Later in the census cycle microfiche were made available from a "secondary distributor" at the CT and CSD levels.

1986 Census Public Use Microdata Files (Formerly Public Use Sample Tapes)

Because of the relatively high cost of production compared to sales, special funding was needed to produce microdata tapes. In the end, funding was committed, and three files (household, family and individual files) were planned for release in 1989.

Diskettes

Many users indicated a growing interest in using census data in a micro-computer environment. As a result various census data products were made available on diskette from EDDD. Profile publications, for example, are available as 'off the shelf' products and custom tabulations can be downloaded to diskette on demand.

Given the ongoing evolution in the use of microcomputers, the Output Team continues to assess alternatives such as the use of CD-ROM and will work with data users to develop and test new products.

Custom Tabulations

One of the major thrusts initially proposed by the Output Team was to improve the custom tabulations service in a number of ways, including faster turnaround time, better information about the service and possible user training to increase efficiency. These

ideas were well received by data users and a number of efforts to strengthen the service were undertaken. These included preparation of better documentation of the data products, greater modularization to increase the efficiency of the production phase, and more flexibility in format and output options.

Identifying user requirements early played an important part in improving the custom tabulation service and avoiding production bottlenecks. To facilitate planning for custom tabulations, users who might be interested in special tabulations were asked to provide the Output Team with a general indication of their expected requirements. The initial response was good, but most users waited until after the data were released to finalize their data requirements.

Semi-custom Products

Semi-custom products were conceived to fill the gap between planned and custom products and to make more efficient use of resources. Semi-custom tables would have predefined content but would be generated on request for geographic areas defined by the data user. The idea initially appealed to a great number of users; however, demand for the service was not as high as expected and many users still requested fully custom tabulations. In addition, resources did not permit this service to be fully developed. Further work remains to be done to improve the semi-custom idea.

Analytical Products

The highly successful 1981 Content Series was expanded to cover 16 popular topics. Eleven of the publications were contracted out and data were provided to contractors for analysis and textual preparation. The series was renamed "Focus on Canada Series" to further improve marketability. The Metropolitan Atlas Series of thematic maps was improved by the use of a larger format and the inclusion of more detail. The Atlas series was again produced for 12 CMAs.

Other Products

In addition to the products outlined above, the Output Team developed other products in response to specific needs, if new funding was available.

For example, to reduce costs, a decision was made to identify only four categories for the structural type of dwelling variable (in contrast to the nine categories identified in the 1981 Census). However, a number of data users required more detailed coding and, in response, the nine categories were in fact identified. Funding for this activity was covered by a combination of (i) "up-front" funding from a number of users, for whom a special output package on structural type was prepared and (ii) a surcharge on special tabulations containing structural type data.

A decision was also made not to code responses to the census question on place of work, resulting in a savings of over \$2 million. Again, the offer was made to undertake this coding activity for areas requested on a cost-recovery basis. Discussions were held with interested data users and coding was undertaken for Ontario.

8.3.1 Market Analysis and User Consultations

One of the first steps in determining what data products to produce was to evaluate the output from the 1981 Census and to assess the general dissemination environment in the Bureau. Many meetings took place with representatives from the government and the private sector. Users were consulted extensively on output.

8.3.2 Task Forces

Another crucial part of product determination was the creation of task forces to study and make recommendations on standards and processes that should be applied in all product line tasks.

The Confidentiality and Suppression Task Force investigated and made recommendations regarding the options available to protect the confidentiality of individual responses.

The Product Pricing Task Force acquired information concerning new Bureau policy and practices. This information, along with results from an evaluation of 1981 cost and sales data and from user consultations dealing with pricing, was used to develop recommendations for a pricing strategy.

The Specifications Process Task Force was involved in developing a system for product specifications to be used throughout the Output Project.

The mandate of developing a strategy for the verification process, needed to ensure a high quality product especially for custom tabulations, was given to the Verification Task Force.

Another task force, dealing with Packaging, provided recommendations pertaining to table design and publication text. Major recommendations included replacing the old 'Introduction Section' of 1981 publications with 'Guidelines for Using this Publication' and using indexes (particularly in geographical texts), while minor ones were the use of dividers and title pages and bold face lettering. All recommendations were aimed at producing data products that were more useful, easier to use and professional.

8.3.3 Pricing

Prices for 1986 Census Products and Services were based on STC policy on fees or charges for publications and other specialized services and products. The costs of data collection, processing of statistical data and manuscript preparation are covered by STC's annual appropriations. Highlights of statistical data are available to the public free of charge through the media. Publications are available for consultation through the public library depository program and in STC's reference centres in Regional Offices.

Custom services and products are provided to clients on the basis of specific agreements. Clients are charged full costs for preparing and delivering custom and semi-custom products. Standard services and products (i.e. publications, basic summary tapes, etc.) are provided to clients at predetermined rates, with due regard to the price of similar products from other sources. These are established to recover the full cost of making available such services and products to their anticipated clients (over and above the cost to STC if the products were initially developed for internal use only).

To be equitable to all clients, statistical information produced for subsequent clients is priced the same as the original request.

8.4 Creating the 1986 Retrieval Data Base

The creation of the retrieval data base was one of the first steps towards producing data products. Two data bases were created: a 2A base which includes final 100% census data from the 2A (short) questionnaires, and a 2B base comprising the final 20% sample census data from the 2B (long) questionnaires. Data are retrieved from these bases for all census products and services in the Output program.

The Retrieval Data Base used as input the end product created by the Edit and Imputation (E&I) system. This input was a series of five geographic regional data bases containing the original response data and the edited and imputed data. Subject-matter specialists provided the specifications for transferring the data from the E&I bases to the desired retrieval data base format. In some cases, the data were transferred without modification. Based on predetermined requirements of the Output program, further combinations and modifications of some data were performed to facilitate production. These further manipulations are the "retrieval derives" or derived variables.

The Query Area Library (QAL) provides the geographic pointers to the data contained on the retrieval data bases. The five geographic regional E&I data bases contained data at the enumeration area level, the smallest standard census geographic unit. Data are required however at various levels of geography, such as the census metropolitan area and federal electoral district. The QAL provides the link between the enumeration area and all higher levels of geography. Based on a predefined set of output requirements, standard geographic roll-ups (or hierarchies) were defined. Each hierarchy is identified by a QAL "mask", which when quoted automatically creates the desired geographic roll-ups. Geography Division created the QAL according to specifications provided by the Custom Products and Data Products Tasks.

The QAL for the 2A data base was completed by August 1987. Production of the 2B QAL began in October 1987 and was finished by April 1988. The structure and content of the bases is identical to the 1981 Retrieval Data Bases except where additions or deletions to the questionnaire content exist or base content changes occurred.

Only the edited and/or imputed data are resident on the retrieval bases. The base is a relational data base (RAPID, see Section 8.7.1) containing three (3) relations, namely, the enumeration area (EA), person (PP) and household (HH).

The STATPAK Retrieval System (see Section 8.7.2) is the primary access system.

Both of the 1986 final bases were produced in a series of "waves". Each wave was set up such that all the variables pertaining to one or more subject-matters, having been finalized in E&I, were loaded onto a final retrieval base.

This allowed for the early release of some of the data. The first release, in the form of Interim Population and Dwelling counts occurred in January 1987.

Production of the 2A base was completed by June 1, 1987, allowing for tabulation and subsequent release of 2A data on July 9, 1987. Production of the 2B base started immediately upon completion of the 2A base. Delivery of the 2B base continued through to March 15, 1988. The production of the data bases in a series of waves resulted in a series of data releases. On December 3, 1987, data on ethnic and aboriginal origins of Canada's population were released. Mobility, labour force and education data were released on March 1, 1988. The remaining data from the 1986 Census, covering a variety of social, cultural and economic information, were released on April 20, 1988.

8.5 Systems Development

Although the content was important, the success or failure of the product line was also dependent upon an efficient and flexible retrieval system to support the entire range of products. Since the market was expected to be sensitive to the prices charged, constant monitoring of the price implications of various options and data packages was required. As a result, three systems were developed: the Product Production System, the Master File System, and the Management Information System.

8.5.1 The Product Production System

This is the main production system intended to retrieve, manipulate and format data into tabular format in preparation for their exit to a variety of output modules.

Beginning in April 1986, existing data manipulation modules such as the STUBS/TARELA libraries, the Footnote and Title Libraries, Geographic Names Routine were mounted to create the "Skeletal System". This was followed by Prototype Testing - Cost Benchmarking. The skeletal system modules were tested to assess their ability to produce prototype tables proposed as 1986 Semi-custom and Special Product tables. A sample of tables selected from the 1981 Census Preplanned Output program, typical custom tabulations and any preliminary tables that were specified as 1986 preplanned products were also included in the testing. Approximating production costs for prototype tables began here.

The Menu System or system interface that drives the Product Production System was completed next. The following modules were added: merge/concatenate, suppression (see Appendix H), calculation module addition, quality assurance and incidence reporting. Prototype testing and product development was the final stage. All system modules were tested. Some products began to emerge at this point.

Output Modules - The Output Team developed a system to install interfaces between the Product Production System and an expandable series of output modules to the Xerox 9700 Laser Printer, high speed printer(s), microfiche and magnetic tape. Microcomputer diskettes and basic summary tapes are produced by Electronic Data Dissemination Division (EDDD) from data provided by the Output Project.

The system necessary to produce preplanned products was finalized in September 1987. The system continues to evolve as the demands for custom products change.

8.5.2 Development of the Production System

In developing the Production System, the Output Team's primary objective was to create a vehicle (libraries and/or files) that would enable personnel to accumulate and re-apply knowledge, production tools and elements generated in the product development process. This approach allows personnel without expertise in STATPAK to retrieve data, and was designed to minimize duplication of effort, shorten turnaround time to clients, reduce production costs and increase revenue-generating ability. To accomplish this goal, five main libraries or files were created. They are:

1. Stubs Library
2. TARELA Library
3. Notes and Footnotes Library
4. Electronic Forms Library
5. Geographic Names Library

The central element of the Production System is the Stubs/Tarela Library. Initially, the various files were empty. Theoretically, a stub set (a variable with all its values), TARELA statement or DEFINE need only be written once. Furthermore, stub sets or TARELA code which are variations of existing elements can be generated by modifying those elements and adding the new version to the files.

A detailed description of these files can be obtained from STUBS/TARELA Library, Census Operations, STC.

8.6 Specifications

Detailed specifications were required for various activities in the output cycle. In all cases the specifications were provided on paper. The type of specifications required varied.

Data Base Creation - Detailed specifications were required to create, combine or modify variables created by the retrieval derives from the E&I data bases to the retrieval data bases. The review and approval of the specifications was done by the specifier - either the appropriate subject-matter specialist or the Task Manager, Custom Products.

Preplanned Data Products - General guidelines for a basic set of products were provided by the Project Manager. The subject-matter specialists defined the content, layout, data manipulation required, census year and geography. Then they negotiated with production regarding technical feasibility to finalize the specifications.

Specifications were provided on paper and, at any one time, several copies could exist. Frequently, amendments were made simultaneously by various sections (for example, data retrieval, text production, translation) on the various copies. A focal point for controlling specifications was created in 1987. In addition, work was accomplished in accordance with established priorities. Progress in finalizing and implementing specifications was often impeded by conflicting priorities.

Custom Products - Specifications, tailored to meet the clients' needs, are negotiated and determined by consultants of the Custom Products Service and the clients. All specifications are analysed by retrieval personnel to ensure the contents are logical, to give time estimates for production and to advise on pertinent technical aspects affecting retrieval of the data. Client approval of the final specifications by signed contract is required before data retrieval begins.

8.7 Overview of the Data Base Management System

8.7.1 RAPID

The name of the Data Base Management system developed by STC for processing census data is RAPID (Relational Access Processor for Integrated Data Base). It is a relational data base system, and its most important property is that data are structured in rows and columns and are presented to the user in "table" format. Detailed information on the RAPID system is available in the document An Abstract of RAPID General Information Guide.

8.7.2 Retrieval Systems

The name of the retrieval and tabulation package developed for the 1971 Census is STATPAK. It was designed for efficiency, and is meant to be used by Systems Developers, Operational Support staff and Subject-matter experts. In summary, anybody who needs access to census data should be able to do so using STATPAK. The objective was to eliminate the tedious process of producing data tables using third-generation computer languages such as COBOL and to make up for deficiencies found in current commercial products. Tabulation requests are coded in TARELA (TABulation REquest LAnguage). Requests specify the variables desired, computations and the geographical constraints. Geographical areas are specified with the additional help of the Query Area Library, or QAL software, also developed in 1971.

STATPAK was revised for the 1976 Census to interface with the RAPID Data Base Management System and to extend some of its capabilities. It has not gone through any upgrades since that time.

STATPAK is still seen as the most cost effective tool to retrieve data. Nonetheless, it has serious limitations. The Output Team has had to develop new systems around STATPAK in the form of custom SAS (Statistical Analysis System) and PL/I code, CLISTS and ISPF panels. In comparison to new software tools that are easy to use and extremely powerful, STATPAK has become more frustrating to use in the Output Project. It was impossible to move away from STATPAK however, because of the DBMS technology used and because of the interface to the Geostatistical Library (QAL).

Other limitations of STATPAK can be directly attributed to changing requirements. A major increase in the importance of custom retrieval products as opposed to publications has occurred. Census clients are more computer-aware. They are more appreciative of the importance of the

information that can be provided from the census data base and want tables that are more readily usable and specific to their needs. The result is that STATPAK is being pushed to its limits of retrieval.

The following ratios for the 1986 Census reflect the distribution of costs of the Output Project during the period of April 1987 to December 1987. Less than 3% of the total cost of the Output Project can be attributed to the use of STATPAK. Over 15% of the cost was for other software such as SAS, custom code and use of interactive services. Another important observation is that 73% of the cost of the Output Project was for human resources.

For more information on STATPAK, see STATPAK C/76 General Information Manual, File Ref.: 40000.01 May 1978.

8.8 Production

8.8.1 Table Creation

All output products, regardless of the source, are composed of table production elements resident on a library. Throughout the table development stage, the necessary production elements are selected. The contents of a special or custom tabulation are not normally on a library. The files are searched, however, for the closest fit, modified as required, and any remaining custom programming is completed.

The required files are then assembled into a Production Job Network. Each table has a unique Network, regardless of the product or output medium. Because all elements created in the production of a table are stored independently in a library, they can be selected and reassembled in a variety of forms and combinations to create new products. If requests are received for previously released data, at a different geographic distribution, the geographic pointers are changed and the production network rerun. This reduces the effort required to fill the request and the

potential for errors, and improves the turnaround for these types of requests. A table can be run in approximately 10 working days by recalling libraries; 30 to 40 working days would be required to create the same table from scratch.

8.8.2 Creating the Final Output

The Table Print File contains the formatted, final output table, complete with the required data manipulation, stub text and column headers. The file then proceeds to the Output Subsystem. This subsystem comprises two main streams, the Profile Table Construction (custom or preplanned) and the Publication Proof Production.

- (a) Profile Table Construction Capacity - The 1986 Profile tables were constructed as a collection of univariate or limited cross-classification tables. These mini-tables, approximately 26 per profile, were retrieved, manipulated and formatted independently. The system then merged or stacked the mini-tables to create the profile table page.
- (b) Publication Proof Production Capacity - The Xerox 9700 Laser Printer produces publication proof copies, suitable for Off Set printing reproduction.

The Table Print File contains the data in matrix format with affixed stub text with each row. This is merged with the Electronic Form(s) (a table overlay which contains the table title and column header text) resident on the Laser Printer.

Custom tabulations can be produced as computer print-out or fully formatted Xerox 9700 Laser Printer pages, loaded on magnetic tape or produced on microfiche. Specialized formats, required for compatibility with computer systems or publication programs, can be provided in most cases. The client's needs determine how many output media modules are needed for the required output.

8.8.3 Publication Proofs

The publication proof manuscript of all catalogued publications is sent to Publications Division. This division manages the publication process and contracts to publish it. The Output Project negotiates with Publications Division regarding presentation quality, pricing, marketing incentives and other designated aspects of the publication contract. Most publications are printed by the Department of Supply and Services Print Shop, on a cost-recovery basis, consistent with departmental policy.

8.9 Data Dissemination

An effective dissemination network was essential not only to enable a successful revenue-generating program, but also to encourage public accessibility to census information.

Official releases of all 1986 Census data took place through an announcement in Statistics Canada's publication The Daily. Media representatives and organizations were provided with census data free upon request.

8.9.1 STC Regional Reference Centres

These centres provide a full range of the census products and services. Each reference centre is equipped with a library and a sales counter where users can consult or purchase census publications, microcomputer diskettes, microfiche, maps, etc. Each centre has facilities to retrieve information from STC's computerized data retrieval systems - CANSIM and TELICHART. A telephone inquiry service is also available with toll-free numbers for regional clients outside local calling areas. Other services - from seminars to consultations - are offered. A complete list of Regional Reference Centres is given in Appendix F.

8.9.2 Electronic Data Dissemination Division(EDDD)/CANSIM

EDDD is responsible for the distribution of machine-readable data, such as the Basic Summary Tapes and profile data. Some data can be obtained on other electronic support media. The Output Project provided the census data on magnetic tape, along with a comprehensive documentation package for dissemination by EDDD/CANSIM. EDDD loads these data onto an on-line retrieval system. The regional offices have access to part of this. From this system, manipulations of content or geography from existing data products are available upon request. Downloading to microcomputer diskettes is also possible. Purchasers of profiles on diskette are provided with C86, a software package that facilitates retrieval.

8.9.3 Depository Libraries

Users who want to consult publications may do so at any of the 53 Depository Libraries across Canada and in a number of other countries that carry all Statistics Canada publications. A list of full Depository Libraries, which automatically receive all federal government publications free of charge, is in Appendix G. In addition 400 - 500 Selected Depository Libraries received some of the census publications.

8.9.4 Provincial and Territorial Focal Points

All focal points (senior officials appointed to the Federal and Provincial Consultative Council on Statistical Policy by the premier of each province) were provided with copies of all census publications, and a selection of the Basic Summary Tables on tape or microfiche.

8.9.5 Secondary Distributors

The 1986 Census introduced a new program of secondary data distributors. They had some of the census data available for resale in various formats. These distributors resold the data under a licensing agreement with Statistics Canada and formed an important dimension of the census dissemination network.

8.10 Critique and Evaluation

The 1986 Census Output Program was marked by a reduced budget and product line and a requirement to recover \$10 million by the sale of census products and services. This represented a fourfold increase in revenues compared with the 1981 Census. This \$10 million target has been reached.

The modifications to the Output program were achieved through ongoing discussions and negotiations with data users. In a number of cases, innovative approaches were developed for the production of special census products that were not part of the regular Output program. At the time of writing, the release of all census products was not yet complete and no evaluation had been done. Such an evaluation is planned and will form important input into the planning of the 1991 Census.

9. 1986 CENSUS OF AGRICULTURE

9.2.2 Formulation of Content

9.1 Introduction

This chapter presents a comprehensive description of the various Census of Agriculture systems and procedures and how they are related.

9.2 Content and Questionnaire Development

This section outlines how the data users' needs were determined and incorporated into the 1986 Census of Agriculture questionnaire (Form 6, see Appendix D).

9.2.1 Census User Workshops

The Agriculture Division of Statistics Canada held census user workshops in every province during the spring and summer of 1983. Two additional workshops were held in Ottawa, one for Agriculture Canada and related agencies, and one for other federal departments and other data users. In these sessions the following areas were covered:

- highlights of the 1981 Census;
- concepts such as the definitions of the farm holding, the farm operator and agricultural products;
- questions on the census considered necessary to continue the statistical program of the Agriculture Division;
- other questions carried on the 1981 questionnaire;
- identification by data users of new areas of concern about which data might be collected through a census or by other means of statistical collection.

After the census user workshops, it was necessary to set up a mechanism to develop the most appropriate content for the census questionnaire. Statistics Canada proposed an approach at the Federal-provincial Agricultural Statistics Meeting in October 1983, which was accepted by the seven provinces represented at the meeting. This approach consisted of the development and costing of (a) the 'basic' or 'core' census of agriculture questions and (b) other modules of questions that users considered to be high priority.

(a) Core Census of Agriculture

A core questionnaire for the Census of Agriculture was developed on the basis of:

- information needed to ensure coverage of the target population;
- the data required by Statistics Canada and provincial governments for the benchmarking of regularly published estimates of crops, livestock and financial variables;
- the variables needed to provide a sampling frame for Statistics Canada's continuing survey activity;
- the variables necessary for legislated program purposes by both federal and provincial governments;
- the variables considered to be of common and paramount importance to the analysis of information arising out of any of the additional modules.

Such a basic or core census would supply information on the following:

- geographic location of farm operator's residence and farm headquarters to ensure coverage by the census representatives;
- instructions to farm operator: definition of agricultural holding, listing of agricultural products, etc.;
- operator's name, mailing address and length of residence on holding to complete the data collection process;
- type of organization: individual or family holding, partnership, corporation, and other types of organization;
- location and area of farm: area, tenure and headquarter's description;
- area of field crops: grains, oil seeds and other field crops;
- area of fruit trees, small fruits and commercial vegetables;
- market value of land and buildings;
- livestock: number of cattle, pigs, sheep and other livestock;
- automobiles, trucks and all other machinery: four questions on the number and dollar value of automobiles, trucks and other machinery, and the total;
- total expenditures: one question on the total expenditures of the farm holding during 1985 along with detailed instructions on what types of expenses should be included or excluded;

- total sales: one question on the total value of agricultural products sold during 1985 as well as detailed instructions on what items to include or exclude.

(b) Additional Modules of Questions

In all, 14 modules were tested for inclusion in the 1986 Census of Agriculture. These were: type of organization, detailed version; area of forage seed harvested; nurseries, sod, greenhouses and mushroom houses; forest products and maple tappings; fertilizer and pesticides, short version; fertilizer and pesticides, detailed version; irrigation and tile drainage; machinery and equipment; farm labour, short version; farm labour, detailed version; off-farm work; farm expenditures, detailed version; contract farming; and farm product typing.

9.2.3

Testing

A number of tests were conducted to arrive at the most appropriate questionnaire content.

(a) Focus Group Test

This test involved discussions with small groups of farmers. It was used to test land tenure and land use questions. About 50 farmers, mostly ranchers in Western Canada, were interviewed. As a result of this test, the land tenure was split into "area leased from governments" and "area rented or leased from sources other than governments". For land use the "unimproved land for pasture, grazing or hay" was separated from "all other unimproved land".

(b) **Modular Test**

The modular test determined whether farmers could and would respond to the questions contained in the proposed modules. A mail-out telephone follow-up test of 800 farmers was conducted in April 1984. This part of the test proved extremely valuable in identifying questions that needed rewording.

(c) **Complete Questionnaire Test**

In August 1984, a full questionnaire was mailed to approximately 5,000 statistically selected respondents. The respondents were asked to mail back the completed questionnaires. About 1,200 replied as requested. A subsample of respondents was also carried out to probe into specific response problems. The results of all these tests assisted the Agriculture Division in finalizing the wording of questions for the 1986 Census.

9.2.5

Cabinet Approval of 1986 Census of Agriculture Questionnaire

The Agriculture Division of Statistics Canada drafted modules in English and French versions. To obtain approval from the Cabinet, documents providing justification for each module were prepared, translated and submitted. The Cabinet approved the questionnaire content in the fall of 1985.

9.2.6

Legal Counsel and Gazetting

After approval from the Cabinet the questionnaire content was evaluated by legal counsel and some changes were made in the French version. The questionnaires were then published in the Canada Gazette.

9.2.7

Printing

In all, 735,000 English and 630,000 French questionnaires were printed.

9.2.4 **Analysis and Consultation**

The user community, including provincial statisticians, was consulted as outlined in Section 9.2.1, Census User Workshops. The subject-matter staff in the Agriculture Division helped analyse the test results and assisted in wording the proposed content changes. Methodologists helped select samples for testing, drafted probing questions and documented the results. The factors influencing content for the Census of Agriculture were:

- (1) Was there strong and dependable support from a wide spectrum of the user community?
- (2) Was the census a cost-effective vehicle for asking the questions?
- (3) Was most of the respondent community willing and able to answer the questions?

9.3

Collection of Data

The Census of Agriculture was conducted simultaneously with the Census of Population on June 3, 1986. Two methods were used to identify farm operators. First, census representatives (CRs) were required to identify each agricultural holding in their enumeration areas (EAs) and determine who operated it. Second, CRs were required to ask at each dwelling they contacted whether anyone living there operated an agricultural holding.

A Census of Agriculture questionnaire (Form 6) was completed if the respondent operated a farm, ranch or other agricultural holding (feedlots, greenhouses, nurseries, institutional farms, mushroom houses or fur farms) with sales of agricultural products during the past 12 months of \$250 or more.

Agricultural products included livestock and poultry, dairy products and eggs, field crops, fruits and vegetables, mushrooms, greenhouse and nursery products, sod, fur bearing animals, honey and beeswax as well as maple products.

The operator of an agricultural holding was defined as the person responsible for making the day-to-day decisions in the operation of the holding. This included owner-managers, tenant-managers and hired managers.

The EAs were divided into pick-up, mail-back and canvasser areas based on population density requirements for the Census of Population. In the pick-up areas, the questionnaire was dropped off for completion by the respondent and later picked up by the CR. In the mail-back areas, the agriculture questionnaire was dropped off by the CR to be completed and mailed back by the respondent. In the canvasser areas, the questionnaire was completed by interview. Most Census of Agriculture questionnaires were enumerated using pick-up procedures.

9.3.1 Agriculture Enumeration in Pick-up Areas

During drop-off, the farm operator was requested to complete the Agriculture Questionnaire as of Census Day and hold it for pick-up shortly after that day. For operators of agricultural holdings living outside the EA, the CR followed a special enumeration technique. (See Chapter 4.)

Agriculture questionnaires were picked up at the same time as the population questionnaires. If the operator had completed the Agriculture Questionnaire, the CR applied an edit procedure. If the questionnaire were only partially completed or had not been completed at all, the missing answers were obtained through interview of the farm operator. Similarly, if an operator was discovered during pick-up or no contact had been made during drop-off, the CR completed an Agriculture Questionnaire by personal interview and applied the edit procedure.

If the CR had dropped off an Agriculture Questionnaire (Form 6) at a household that did not require one, he/she wrote "Cancelled" on the face of the questionnaire and in the "Remarks" column of the Visitation Record. Then the CR entered the reason for cancellation in the "Comments" section of the questionnaire before placing it in the Cancelled Forms Envelope (Form 4E).

9.3.2 Agriculture Enumeration in Mail-back Areas

The number of agricultural holdings in mail-back areas was relatively small. Therefore, it was not necessary to train CRs in all aspects of agriculture procedures. However, the CRs were required to be able to identify all agricultural holdings and list them on the Form 6C (Agricultural Holdings in Mail-back Areas) where applicable and also to complete the proper columns in the Visitation Record. This task was carried out when the population questionnaires were dropped off before June 3, 1986.

In the 1986 Census, a List of 1981 Agriculture Operators (Form 6B) in a mail-back EA was also provided to the CR. The Form 6B was intended to help identify farm operators. If contact was made with a member of the household of an operator, the CR left the Agriculture Questionnaire and an Agriculture Return Envelope (Form 6E) and asked that the questionnaire be completed as of June 3 and mailed back. If no contact was made, the CR left an English and a French questionnaire in the Double Drop-off Envelope (Form 5E) for completion and mail-back. The CR listed all agricultural holdings, whether the operator lived in or outside the EA. Special agricultural CRs conducted edits and follow-up for these forms.

9.3.3 Agriculture Enumeration in Canvasser Areas

In canvasser areas, each agricultural holding was enumerated by interviewing the farm operator at the same time as the Population Questionnaire was completed. The CR also performed the prescribed edit procedure for the Agriculture Questionnaire.

9.3.4 Special Cases

(a) Units of Measurement

In 1986, the respondents were asked to choose either acres, hectares or arpents as the unit for measuring land. Once the unit was selected, the respective box was marked in Question 5 of the Agriculture Questionnaire and the questions were answered in that unit.

(b) Headquarters of an Agricultural Holding

For census purposes, the headquarters of an agricultural holding is the operator's residence if he/she lives on the holding. If the operator resided in an EA where no part of the holding was located, the headquarters was that part of the holding designated as headquarters by the operator in Question 6 of the questionnaire. The CR responsible for enumerating the farm operator ensured that all parts of the holding were listed on one Agriculture Questionnaire even if the holding was located in several EAs.

(c) Partnership

In a partnership, two or more people are involved in the operation of a single holding with a written or unwritten (verbal) agreement. The CR was required to ensure that only one questionnaire was submitted for each partnership operation. However, if one partner operated a separate holding also, a separate questionnaire was completed for that holding.

(d) Missing Questionnaire or Data

(i) Total Refusal

A total refusal occurs when an operator does not supply the information required to complete the questionnaire beyond Question 1. If this happened, the CR was

required to follow a prescribed approach to complete the questionnaire by personal interview. If that failed, the CR completed a Form 4A, designating a total refusal.

(ii) Partial Refusal

A partial refusal occurs when the operator of an agricultural holding refuses to provide all the information required for the questionnaire. Again, the CR attempted to complete the questionnaire by personal interview. If that failed, the CR completed the Form 4B, designating a partial refusal.

(iii) Direct Response

A direct response occurs when an operator in a pick-up area wishes to mail or claims to have mailed the questionnaire. In a mail-back area, it happens when an operator wishes to mail or claims to have mailed the questionnaire to an address other than the address on the return envelope. Again, if all attempts failed to complete the questionnaire by personal interview, the CR completed a Form 4A, designating a direct response.

(iv) Absent Operator

An absent operator is one who is not at home when the CR calls and other members of the household cannot supply complete or partial information. After making the three required visits to the household or determining that the operator would not return before the end of the enumeration period, the CR completed either a Form 4A or a Form 4B, designating either a total or partial refusal.

(e) Change of Operator

In cases where there was a change of operator during the preceding 12 months, the CR asked the present operator to estimate as accurately as possible such items as weeks of paid labour and sales of agricultural products for the whole period.

(f) Managed Land

Hired managers were considered the operators of the holdings they managed. The land tenure was recorded with respect to the employer of the manager on the questionnaire. If a hired manager operated another holding independently, another questionnaire was completed.

(g) Community Pastures

In 1986 most community pastures were enumerated directly by Head Office. To ensure coverage of all lands, an independent township plan had been drawn up for each township in the Prairies indicating the EA boundaries. Community pasture boundaries were mapped to signal their exemption from enumeration by the CRs. However, CRs were responsible for enumerating those community pastures not already pre-identified on their township plans. For pre-identified community pastures, a mailing list was compiled and the questionnaires were mailed to respondents along with guidelines for completing the questionnaire. The respondents included provincial administrators of agencies responsible for community pastures and the presidents or secretaries of grazing associations or co-operatives. In view of the unique characteristics of community pastures, separate editing guidelines were compiled and telephone follow-up was used extensively. Questionnaires for community pastures were also checked for duplication during data validation. A total of

7,156,118 acres were reported on community pastures in Canada in 1986 compared with 5,150,976 acres in 1981, an increase of two million acres or 38.9%.

(h) Institutional Farms

An Agriculture Questionnaire was completed for any land used for agricultural purposes by an institution such as an experimental farm, school, penitentiary, or hospital. All agricultural products produced on the farm and used by the institution were considered sold. The inmates of an institution were not included as hired agricultural labour and the person responsible for the agricultural operation was considered the operator and designated as "manager". Institutional questionnaires were edited separately due to their unique characteristics.

(i) Hutterite Colonies

An Agriculture Questionnaire was completed for all land operated as a Hutterite colony. The "boss" was considered the operator.

(j) Large Corporate Farms

Large corporate farms usually comprise more than one agricultural operation. Collection of data from each of these operations required the co-operation of the corporate headquarters; therefore, special arrangements were made with the headquarters to collect data from each corporate holding without duplication.

(k) Specified Farms

Specified farms are large farms with respect to one or more variables such as cropland area, total cattle, dairy cows, beef cows, total pigs, sows, total sales, feed expenses and cash wages. They are selected based on predetermined variable limits.

A 1985 list of specified farms was obtained from the National Farm Survey (NFS). To reduce response burden it was decided that the Census of Agriculture would provide the data to the NFS for 1986 for these farms.

9.4

Head Office Processing System

The Head Office Processing system (HOP) comprised a control system, as well as document preparation, data capture and microfilming operations.

(I) Operators Residing Outside the EA

When the CR identified an agricultural holding operated by someone living outside the EA, this operator was not listed in the Visitation Record (VR) since he/she would be identified and enumerated in the EA in which he/she lived.

When the CR did not know whether the operator was a resident or a non-resident operator, or when the CR was sure the operator was non-resident in the EA in which he/she lived, this operator was listed on a Form 6D (Agriculture Land Referral Form). The Census Representative completed Part I of a Form 6D for any non-resident operator living outside the EA. Then the Form 6D was forwarded through the field organization to the CR responsible for the EA in which the operator lived. This CR completed Part II of the Form 6D and ensured that a questionnaire was completed for the operation. One copy of the Form 6D was inserted in the questionnaire and one copy forwarded to the Census Commissioner or Census Area Manager to inform them of the enumerated land.

Strict control of Forms 6D was maintained to ensure forwarding to the proper CR and to confirm the land area, listed as operated, appeared on the respondent's questionnaire.

9.4.1

Control System

The control system ensured a smooth flow of census documents to and from the work units in the Head Office. The control system comprised receiving and distribution, separation, registration and library operations.

(a) Receiving and Distribution

This operation received shipments of documents from the Regional Offices (ROs) and distributed these and other documents to the work units. The shipment invoices were received in advance of the actual shipments, which were dated and filed by Regional Office name and number. Upon notification from the Census Dock Master, the shipments were picked up and delivered to the receiving and distribution area. Then the contents of each box were verified against the enclosed shipment invoice. Discrepancies were resolved and the Regional Office notified. The date the shipment was received was stamped on the shipment invoice, which was then filed with its advance copy. The envelopes were forwarded to the separation unit for further processing. Additional functions performed by the receiving and distribution operation were assembling batches for document preparation, collecting folders from document preparation, assembling data capture lots and distributing documents to edit operation areas.

(b) Separation Operation

This operation separated the Agriculture Questionnaires (Forms 6) from the other documents contained in the 6A envelopes. The other documents were:

- Form 6B, a list of farms in mail-back areas from the 1981 Census (this list was provided to the Population Mail-back Enumerator to identify farms in the cities with population of 10,000 or more);
- Form 6C, a list of farms in mail-back areas for the 1986 Census prepared by the Population Mail-back Enumerator based on Form 6B;
- Form 6D, Agriculture Land Referral Form;
- Form 4A, Missing Questionnaire Card;
- Form 4B, Incomplete Questionnaire Card;
- township plans;
- an extra land description sheet;
- a letter of comment from the farm operator; and
- copies of Visitation Records.

Envelopes were opened in the separation operation where the documents were separated and counted. Counts of Forms 6, cancelled Forms 6 and Forms 4A were recorded on the envelope (Form 6A) under the heading for 'Head Office' counts. The Head Office counts were compared with the Regional Office counts and discrepancies resolved. The geographic identification codes on the envelopes and the respective Forms 6 were compared and corrected if required. Then, field forms were placed in files and

used for reference purposes. Missing Questionnaire Cards (Forms 4A) were sent to the referral unit for further processing. Also, questionnaire identification numbers (labels) were applied to all completed questionnaires. Documents attached to the individual Form 6 were removed, processed as required, and filed by the Form 6 identification number. During labelling the direct response questionnaires were sent to the referral unit for edit and follow-up. Similarly, letters of comments from the farm operator that warranted a reply were also turned over to the referral unit for a response. The labelled questionnaires were returned to their envelopes and the completed envelopes then forwarded for data entry (registration).

(c) Registration

Registration consisted of entering the identification data from 6A envelopes and the enclosed questionnaires into the control file system. The control file was used to monitor the movement of Agriculture Questionnaires between operations and to compile reports on that activity.

(d) Library

The library operation kept the documents in order and available to Head Office staff. The operation involved storing the 6A envelopes and documents, and servicing requests for envelopes and documents. The document storage in the library was divided into 'hold areas' and 'province' areas. The hold areas stored the 6A envelopes and the folders for 'document preparation' and 'data capture'. The province area stored the questionnaires after data capture. In general terms, the servicing of requests included the assembly, transfer, return and filing of documents for document preparation, data capture, identification edits, clerical edits, referrals, subject-matter edits, purging and data validation

operations. After each assembly of documents for transfer, the library audit trail form was completed to keep track of the documents.

9.4.2 Document Preparation

Document preparation clarified answers provided by respondents to facilitate efficient data entry. Responses were checked for clarity, completeness and accuracy. Written alterations were made, while leaving the original responses intact to ensure that all information on the form could be captured.

9.4.3 Data Capture

Data capture, or data entry, converted data on the questionnaires into machine-readable form. The data entry program allowed for on-line edits and 100% verification of selected fields. This program also produced a file of identifiers for the entered records that was matched to the Head Office processing system control file to verify the transfer of the records to the edit project.

9.4.4 Microfilming

An image of the completed questionnaire was produced on microfilm to preserve the original data in a small space for future reference.

9.5 Referrals

The referral unit provided the subject-matter knowledge or professional judgement, when required, to document preparation, identification, and clerical edits operations. Second, the unit was responsible for ensuring completion of special enumeration procedures of subuniverses such as community pastures, institutions, specified farms, large corporate farms, Indian reserves, etc. Third, the unit resolved special enumeration situations including total refusal (Form 4A), partial refusal (Form 4B), direct response and field cancellation of questionnaires. Fourth, the unit responded to farm operators

who asked questions or made thoughtful comments. Fifth, the unit had the ultimate responsibility for all additions and deletions of questionnaires. Before the 1986 Census data base was closed, the unit conducted a purging operation that identified and cancelled duplicate questionnaires for the same agricultural holding.

9.6 Edit System

The edit system resolved problems with the geographic identification of the farm operators' residence and the farm headquarters. It also corrected data entry errors and respondent errors, and assigned values using the data internal to the record, identified records for donor imputation, and converted data into one unit of measurement. The system comprised identification edits, clerical edits, subject-matter referrals, internal imputations, subject-matter edits and data conversion.

9.6.1 Identification Edits

Identification edits identified and corrected any errors related to the geographic location of the farm operator's residence and the farm headquarters. The edits ensured that a unit of measurement was reported consistently throughout each questionnaire and clarified unintelligible values that could not be keyed during data capture. A total of 55,042 identification edit failures were resolved.

9.6.2 Clerical Edits

Clerical edits identified and corrected data entry errors. In addition, the edits identified fields where parts did not equal the total, and identified inequalities between fields that were supposed to be equal, or identified a field greater than a predetermined maximum value.

Each record was passed through a computerized clerical edit after completing the identification edits. All changes performed by the clerks at this stage were recorded on an evaluation file, which was used to produce tables

showing the effect of changes on each variable at the clerical edit stage. Approximately 486,000 edits required checking during this operation.

9.6.3 Subject-matter Referrals

This operation provided subject-matter knowledge or professional judgement as required. The referrals arose from failure of identification edits and clerical edits. The referrals from identification edits required, for instance, resolution of questions related to the type of organization, off-farm work and units of measurement. Examples of referrals from clerical edits include total operated land not equal to total land used, and total cattle and calves equal to total pure bred registered cattle and calves. Experts resolved the referred problems and completed the relevant corrections on the error report.

9.6.4 Internal Imputations

The object was to make a record internally consistent by using other data on the record. The types of internal imputations performed were entering the sum of the parts in a total, transferring a value in one field to another equivalent field, correcting yes or no boxes by identifying presence or absence of data in a section and identifying records that required donor imputation.

9.6.5 Subject-matter Edits

These edits were designed to identify unacceptable values or relationships between variables. Experts examined the edit failures related to his/her area of expertise and indicated the updates to the individual records on the error report when warranted. These updates were recorded on an evaluation file which was used to produce tables showing the effect changes had on each variable at the subject-matter edit stage. A total of 206,000 subject-matter edit failures were examined.

9.6.6 Data Conversion

The respondent could report the farm area in acres, hectares or arpents. Greenhouse and mushroom area could be reported in square metres or square feet. For aggregation purposes, hectares and arpents were converted to acres, and square metres were converted to square feet.

9.7 Donor Imputations

Where follow-up contacts were unsuccessful in obtaining missing information, and systematic checking of the census questionnaire failed to resolve problems of inconsistent data, a computerized imputation procedure was used to determine reasonable approximations to the actual values. A sophisticated technique determined the record most similar to the one requiring imputation, and the value reported for that farm was entered into the invalid record.

A total of 294,053 records were processed, out of which 126,779 (43%) required some donor imputation and 166,563 (57%) belonged to the donor population. In general, imputed values account for a very small proportion of the overall census totals.

9.8 Data Validation

The objective of data validation was to assess the accuracy of the census numbers by comparing the aggregate data to independent sources and historical data. Subject-matter analysts prepared a written analysis including a recommendation regarding the release of data for each province. These reports were presented to the Certification Committee for review and final decision.

(a) Assignment of Subject-matter Variables

Essentially, the analysts responsible for the subject-matter edits were also responsible for the data validation of their variables. Analysts from all sections of the Agriculture Division participated in the validation operation.

(b) Analysis Tabulations

(i) Standard Tables

In general, the following tables were provided to all validators for the analysis of their variables.

Comparison Tables: These tables included 1986 and 1981 Census variable values and the percentage change at the provincial, census division and the consolidated census sub-division levels.

Top Contributors: The top 25 variable values in descending order by province were tabulated along with the name and address of each.

Impact of Processing Reports: These reports summarised the processing effect after the clerical, internal imputation, subject-matter edit and donor imputation stages. These reports were produced by province and variable.

(ii) Special Tabulations

The validators could request special tabulations to meet their particular analytical needs. These requests generally comprised additional top contributor tables.

(c) Analysis of Data

Subject-matter experts analysed the data to arrive at a recommendation regarding acceptability for release by:

- matching top contributors to independent lists if such lists existed for that variable;
- comparing changes over time where questions had been asked in previous censuses;
- analysing relationships of data to other variables, such as for wages and weeks of hired labour;

- comparing data with other surveys or administrative sources;
- assessing the significance of the impact of processing.

(d) Submission to the Certification Committee

The Certification Committee was composed of senior economists at the Agriculture Division including the director, assistant director, section chiefs, census manager, a methodologist and the data validation project manager. The committee discussed the analysis of each commodity expert in a series of meetings for each province. The results of the discussion were recorded and recommendations were either accepted or referred for further study. After completion of this process, all variables from the 1986 Census were released although a number of field crop variables were combined and several cautionary notes were drafted for publication with certain of the variables.

9.9

Derived Variables and Farm Product Typing

These variables were derived by computer processing from the reported data and added to the individual records.

(a) Derived Variables

Derived variables were created to ease retrieval for publications and user requests. For example, when the reported areas of all spring wheats on a questionnaire such as 'hard red spring wheat', 'durum wheat', 'utility wheat', 'soft white spring wheat' and 'other semi-dwarf spring wheats' were added, a new variable 'total area spring wheat' resulted. This derived variable was added to the record for future use. Thus, some variables were derived by adding certain related variables as reported. Another method of derivation was to calculate the frequency

distributions of such variables as farm capital, improved land, farm size, etc., and add to the records a code indicating the group to which it belonged, e.g., farm size 3-9 acres. A total of 63 derived variables were added.

(b) Farm Product Typing

The objective of farm product typing was to determine the predominant production enterprise of each farm and assign it to the farm record.

Determining the predominant production enterprise involved estimating potential sales from the inventories of crops and livestock reported on a questionnaire. These potential sales were accumulated to derive the total potential sales. The commodity or group of commodities accounting for 51% or more of the total potential sales determined the farm type.

Two sets of farm types were produced in 1986. A basic set of 12 farm types was presented in the Census of Agriculture publications. A further disaggregation into 31 farm types comparable to the Standard Industrial Classification is available on special request.

9.10 Agriculture-population Linkage and Farm Population

The Agriculture-population Linkage files and the farm population data are the result of computerized matches between the Census of Agriculture file and the Census of Population file.

(a) Background

Computerized matches were performed using the information (province, federal electoral district, enumeration area and household number) transcribed on both the Census of Agriculture questionnaire and the corresponding Census of Population questionnaire by census representatives during drop-off.

In the Regional Offices, the two questionnaires were manually matched and the farm operator's identification was added to each Census of Agriculture questionnaire. At the Head Office, an initial computer match between the Census of Agriculture file and the Census of Population file was conducted to determine the extent of non-matches. During a manual operation, the operator's identification on unmatched records was updated to increase the match rate. After this operation, all inputs were in place to produce the Agriculture-population Linkage files and to derive the farm population data.

(b) Agriculture-population Linkage

Two Agriculture-population Linkage files were created, a 100% file and a 20% weighted file. These files serve to cross-classify the agricultural characteristics of farming operations by the socio-economic characteristics of the persons, families and households associated with the operations.

Phase one of the process linked the Census of Agriculture file and the Census of Population 2A (100%) file. The resulting data base included all agriculture variables and most of the Census of Population 2A variables (e.g., sex, marital status, mother tongue, dwelling type) for farm operators only.

Phase two of the process linked the Census of Agriculture file and the Census of Population 2B (20%) file. The resulting data base included all agriculture variables and most of the Census of Population 2A and 2B variables (i.e. age, sex, income, occupation, education, etc.) for all members of the farm operator households as well as family information. This data base included approximately 60,000 records weighted to represent the total population of 293,089 farms.

The publication **Socio-economic Characteristics of Farm Operators**, Catalogue No. 96-114, will be produced using data from these two data bases. This publication provides a portrait of Canada's farm operators and farm families. Age, gender, education, labour force characteristics and sources of income are among the characteristics shown for farm operators and their spouses, while family size, income levels and sources of income are some of the characteristics shown for the farm families. Some of these characteristics are cross-classified with such farm operations data as sales and type of farm.

(c) Farm Population

The farm population refers to all persons who were members of farm operators' households living on their farms for any length of time during the 12-month period prior to the census.

The results of the computer match between the Census of Agriculture file and the Census of Population file were used to identify farm households on the Census of Population file and the person(s) within the farm household who were farm operators.

The characteristics of the farm population and the farm families are analysed in **Canada's Farm Population**, Catalogue No. 98-133. The publication also highlights the similarities and differences between the farm and non-farm populations.

9.11 Outputs

The 1986 Census of Agriculture data are available as summary tabulations, publications, diskettes and magnetic tapes. In addition, the farm level data can be custom-designed to user specifications on a cost-recovery basis. All outputs of the Census of Agriculture must conform to confidentiality requirements. A data quality report is publicly available. This report evaluates quality in terms of coverage and reliability of data.

9.11.1 Summary Tabulations

The summary tabulations, the first set of tabulations made available, contain totals and number of farms reporting for all variables and provide data at all geographic levels down to the census consolidated subdivision. For the convenience of users, pre-packaged sets of all 37 summary tabulations are available at the national and provincial levels. Provincial sets of tabulations present data at the provincial, agricultural region, census division and census consolidated subdivision levels.

9.11.2 Publications

The publications present the 1986 Census of Agriculture data disaggregated to the census division level (with the exception of one selected table at the consolidated census subdivision level). In addition, the publications contain selected cross-classified and historical tables.

The Canada publication contains data at the provincial level, and the province publications contain the same tables with additional subprovincial detail.

In all, there are 14 publications, which are listed below:

1. User's Guide, Catalogue No. 96-101

This publication describes the outputs and how they may be obtained. It broadly outlines the census questions and geographical levels such as census consolidated subdivision (CCS), census division (CD), agricultural region (AR), province (Prov.) and Canada for which data are available. Information on confidentiality requirements, prices and ordering census products are provided. The guide includes appendices on user advisory regional reference centres, Canadian reference libraries receiving all Statistics Canada publications and an order form.

2. Canada, Catalogue No. 96-102

3. Newfoundland, Catalogue No. 96-103

4. Prince Edward Island, Catalogue No. 96-104

5. Nova Scotia, Catalogue No. 96-105

6. New Brunswick, Catalogue No. 96-106

7. Quebec, Catalogue No. 96-107

8. Ontario, Catalogue No. 96-108

9. Manitoba, Catalogue No. 96-109

10. Saskatchewan, Catalogue No. 96-110

11. Alberta, Catalogue No. 96-111

12. British Columbia, Catalogue No. 96-112

13. A Profile of Canadian Agriculture, Catalogue No. 96-113

This publication supplements the standard publications of tabular data with graphs and maps to give the results of the 1986 Census of Agriculture a visual context. It is intended to serve as a convenient reference guide as well as an introduction to Canadian agriculture. The publication describes agriculture as a major industry by providing both a historical perspective on its importance to economic development and a contemporary perspective on its position today.

14. Socio-economic Characteristics of Farm Operators, Catalogue No. 96-114

This publication presents the results of the 1986 Agriculture-population Linkage.

9.11.3 **Diskettes**

Diskettes are a new product for the Census of Agriculture. They present a machine-readable version of the summary tabulations. Access to an IBM or IBM-compatible microcomputer is required.

9.11.4 **Magnetic Tape**

Summary tabulations are available on tape for 1986 data and special requests can also be provided in this medium. Generally, magnetic tapes are used if the volume of data is large and further analysis by main frame computer is planned by the data user.

9.11.5 **Custom Products**

Census data can be manipulated and reaggregated according to user specifications. For those users who require cross-classified data that do not fall within the standard geographic classification or who need a distribution that is not available in any of the publications, the custom tabulations are ideal. Requests for data can be processed for the 1986 Census of Agriculture as well as those of 1971, 1976 and 1981. However, availability of data is subject to confidentiality restraints.

9.11.6 **Agriculture-population Linkage Data Base**

This data base serves to meet user requests for the socio-economic characteristics of farm operators and their families.

9.11.7 Historically Linked Data Base

The censuses of agriculture from 1966 to 1986 have also been linked historically. The linkage is accomplished by matching farms and their operators in each census with the same farm and operator in the previous census. This provides summary data for users interested in the characteristics of new farms, farms that stay in operation, and farms that cease production.

9.11.8 Availability

(a) Publications

Individual publications or subscriptions may be ordered through any of the regional advisory centres listed in Appendix I of the User's Guide or from:

Publications Distribution
Statistics Canada
Ottawa, Ontario
K1A 0T6
Tel.: (613) 951-5078

Catalogue Number	Title	Price (\$)	
	Canada	Other	Countries
96-101	User's Guide	3.00	4.00
96-102	Canada	50.00	51.50
96-103	Newfoundland	44.00	45.50
96-104	Prince Edward Island	44.00	45.50
96-105	Nova Scotia	50.00	51.50
96-106	New Brunswick	50.00	51.50
96-107	Quebec	66.00	76.00
96-108	Ontario	61.00	71.00
96-109	Manitoba	55.00	56.50
96-110	Saskatchewan	55.00	65.00
96-111	Alberta	55.00	56.50
96-112	British Columbia	50.00	60.00
96-113A	Profile of Canadian Agriculture	50.00	51.00
96-114	Socio-economic Characteristics of Farm Operators	33.00	43.00

Orders should quote the catalogue numbers and titles required. Payment should be made by cheque or money order to the Receiver General for Canada, or users may use charge accounts. A copy of the order form is provided in Appendix III of the User's Guide.

Publications are also available in many bookstores throughout the country, particularly Government of Canada "authorized agent" bookstores. They are also available at reference libraries across Canada listed in Appendix II of the guide.

(b) Summary Tabulations, Diskettes and Microfiche

Summary tabulations, diskettes and microfiche can be ordered from:

Rick Burroughs
User Services
Agriculture Division
Statistics Canada
Ottawa, Ontario
K1A 0T6
Tel.: (613) 951-8711

For the convenience of users, some of the summary tabulations are pre-packaged into the following groups:

- (i) Canada: This is a complete set of all 37 tabulations at Canada and province level. There are 96 pages in this set for the price of \$192.00.
- (ii) Province: There is one set of tabulations for each province which includes data at the provincial, agricultural region, census division and census consolidated subdivision levels. The number of pages and price vary by province as indicated below:

Province	No. of pages	Price (\$)
Newfoundland	190	380.00
Prince Edward Island	190	380.00
Nova Scotia	190	380.00
New Brunswick	380	760.00
Quebec	2,755	5,510.00
Ontario	1,615	3,230.00
Manitoba	570	1,140.00
Saskatchewan	950	1,900.00
Alberta	380	760.00
British Columbia	380	760.00

Summary tabulations can also be obtained through any of the regional advisory centres listed in Appendix I of the User's Guide.

(c) Custom Products

For cross-classified data, data for non-standard geographic areas, user-specified summary tabulations and specific data requests for diskettes, historical data, and access to other data bases, contact Rick Burroughs at (613) 951-8711 or the address shown previously.

9.12 Critique and Evaluation

9.12.1 Coverage

A census enumerates every unit in a population. Considerable time and effort are used to maximize census coverage but, invariably, there will be errors.

Evaluations have shown that the 1986 Census of Population missed approximately 3.2% of the population and 2.9% of the households in Canada.

Since persons and households were missed, it is reasonable to expect that some farms and farm operators were also missed since the two censuses were being carried out together.

The evaluation showed that undercoverage of farms was relatively low, perhaps 2 to 5% by province. However, some farming operations

which are difficult to enumerate may have higher undercoverage rates. These include smaller farms, blueberry farms, beekeeping operations and community pastures.

Improved land, such as cropland, summer fallow and improved pasture, was well covered by the census. The majority of land missed was woodland, native pasture, range land and other unimproved land. These land classes are more for marginal agricultural use.

9.12.2 Response Errors

The Census of Agriculture questionnaire was carefully worded by subject-matter experts and field tested before Census Day to ensure questions were clear and concise. Some response errors were uncovered, but few questions posed major problems.

The census received excellent co-operation from farmers, obtaining 99.6% response rate from those enumerated. Farmers, for the most part, understood the concepts and were able to respond accurately. The high rate of response, coupled with the editing procedures, have produced high quality estimates.

Subject-matter experts considered the census values for the following items to be the best available data, and most have been used directly as benchmarks for the intercensal estimates: wheat, oats, barley, hay, summer fallow, mixed grains, corn, rye, buckwheat, flax seed, soybeans, sunflowers, canola, mustard seed, canary seed, forage crops, potatoes, field peas, field beans, lentils, vegetables, area devoted to the production of nursery and greenhouse products, cattle, pigs, sheep, hens and pullets, turkeys, number and value of automobiles and farms trucks, total value of all machinery and equipment, value of land and buildings, and most farm expenditures.

A full report on the Data Quality Evaluation of the 1986 Census of Agriculture is available upon request from Agriculture Division, Statistics Canada.

10. PUBLICITY AND PUBLIC RELATIONS

Publicity and public relations efforts for the 1986 Census were carried out in two phases. Prior to the census, the Public Communications Program (PCP) supported the census collection phase; and subsequent to it, the Census Marketing Project promoted output of the census data base.

Two significant factors limited the scope and direction of the 1986 Census public communications campaign, namely, budget reductions of over 50% and a policy decision to eliminate paid advertising. This led to the development of promotional activities that concentrated on tapping existing goodwill and support from government and private sector census users (i.e. third party endorsements) and the provision of free Public Service Announcements (PSAs) for use by the media. Voluntary donations of time and space resulted in some commercial advertising.

10.1 Public Communications Program

10.1.1 Scope and Objectives

The overall mandate of the Public Communications Program (PCP) was to promote public support for the 1986 Census. The stated goals of the program were to ensure the enumeration of 100% of the Canadian population, and to elicit the highest quality responses within established operational time frames and budgets.

The major objectives were:

- to inform and motivate the public to accurately complete and return in a timely fashion the Census of Population and the Census of Agriculture questionnaires for Census Day, June 3, 1986;
- to reach poor response and undercoverage sectors to improve the number and quality of their returns;
- to reassure Canadians that their replies were valuable and would be kept strictly confidential as provided for by the Statistics Act;
- to anticipate controversial issues and develop communication strategies to manage them;
- to build a base of goodwill and to promote the continued awareness of ongoing STC activities. This base would be built upon to market 1986 Census products and services, and to promote the 1991 Census.

10.1.2 Organization and Resource

The total approved public communications budget for the 1986 Census was \$2,067,232, which constituted only 44% of the 1981 budget for this activity, or less than 2% of the overall budget for the census. Statistics Canada was able to capitalize on the broad awareness and high regard generated by ongoing STC activities. Additional economies were achieved by reusing or updating some 1981 materials and written products.

A public relations consultant was hired in the summer of 1984, and a task manager and project manager were appointed the following year. The public communications team was subsequently staffed through a mix of interdepartmental secondments, internal special assignments, inter-divisional loans, term appointments and the summer student employment program. Time savings incurred by these measures avoided significant delays in staffing.

10.1.3 Program Content

The program was planned and implemented as a joint headquarters-regional office activity. Experience from the previous census and reaction to the 1984 cancellation and reinstatement of the 1986 Census indicated that many Canadian organizations were well disposed towards the census and towards actively supporting its promotion. The

challenge was to obtain maximum benefit from this interest by identifying and approaching key groups and organizations, and by developing persuasive and cost-effective means of achieving the objectives. The content was determined, bearing in mind that third party advertisement is best achieved if the promotion easily fits in the existing advertising and communication activities of the sponsor.

The components of the Public Communications Program were as follows:

1. Public Sector Sponsorship

The public sector sponsorship program was built on the premise that other federal, provincial and municipal levels of government were sufficiently interested to actively support the program by donating the use of existing avenues of communications to reach their employees as well as the public. The approach was to add the census message to existing communication channels.

Key activities included establishing contact with:

- senior levels in all federal government departments through direct communication by the Minister, the Chief Statistician and the Census Project Manager;
- Provincial and Territorial Focal Points; the Focal Points also provided support to Regional Office activities;
- Supply and Services Canada, to assist in the development of PSAs and other audio-visual materials;
- various departments who overprinted envelopes with 'June 3 Census Day' or other similar identification which met the requirements established by the Federal Identity Program;
- Health and Welfare Canada, which is a key vehicle for direct contact with Canadian households. This department distributed cheque inserts; provided material on the census to various organizations; provided free access to its photo library and provided assistance in completing specialty materials; and distributed posters to their northern medical stations to promote the Northern Census;
- other federal departments at both the national and regional levels.

2. Association Sponsorship

In 1981, approximately 50 national organizations were contacted by the Ministry. For 1986, 762 associations were identified for ministerial contact. Inclusion on this list depended on membership numbers and identification of target groups, according to the broad categories of youth, the elderly, unions, women's groups, disabled persons, professionals, sports organizations, ethnic groups, religious groups, and health associations. Contact points were established to help officers meet with target groups. The National Advisory Committee, composed of prominent Canadians from influential sectors, was also formed. Members advised on the most effective means of communication and were often spokespersons in their communities or associations.

Contact was also made with local associations by Regional Office staff.

3. Corporation Sponsorship

The private sector accounts for just under 50% of the users of Statistics Canada's electronic products and, increasingly, marketing has focused on this sector. In 1986, heavy emphasis was placed on ways and means of effecting a strong and co-operative voice with business.

Over 1,000 organizations were identified, based on size in terms of sales and number of employees. The companies chosen were categorized by industrial sector, and included particularly those in the manufacturing, transportation, communications, services and food industries.

4. The Census of Agriculture

Since the Census of Agriculture took place concurrently with the Census of Population, the same staff of Census Commissioners and Representatives were involved in data collection. All agricultural data were captured in Ottawa.

The public communications team co-ordinated efforts with a public relations person from the Census of Agriculture who was responsible for the agricultural component of the mail-out campaign and the distribution of materials. In most cases, the Census of Agriculture theme complemented the basic message of the Census of Population.

5. Aboriginal Peoples Program

Special funds from the Aboriginal Peoples Program were allocated to Statistics Canada to achieve a high level of awareness and participation among native Indian, Inuit and Métis populations across Canada.

This program was personally administered by the Census Project Manager. A full-time media officer was seconded from Indian and Northern Affairs to work on the Northern Census (held in March 1988) and subsequently with the native liaison officers and reserves for June 3 Census Day coverage. Several audio-visual presentations and posters were prepared by outside contractors. Distribution and warehousing were done by the Public Communications Project.

Further details of the Aboriginal Peoples Program, including the early enumeration, are presented in Section 11.4.

6. Target Groups

Premised on the hypothesis that 85% of the Canadian public would reply positively when given appropriate encouragement, the remaining 15%, which was divided into target groups, would be difficult to enumerate for three reasons: because of physical location (street people, transient youth); because of communication problems, i.e. language or socio-ethnic barriers; or because of apathy or resistance in which case people would not respond at all.

Early in the planning phase, a list of target groups was determined. Where a group could be identified through some kind of organization (socio-ethnic, youth club, etc.), promotion was organized. The ethno-cultural groups contacted were quite supportive. Regional Office staff interacted with the major communities in their regions. Community leaders became effective spokespersons on behalf of the census. Help centres, staffed with translators, were located within the communities, in order to support materials. Similarly, the support from community groups for the aged and pensioner organizations was good.

Special promotional work among youth, including dissemination of a youth poster, contact with youth organizations and a radio promotion campaign contracted to the Canadian Co-ordinating Council on Youth, helped to reach this group. Youth radio and TV paid advertising might have had a more significant impact.

Some special promotion and contact was undertaken with women's groups and labour organizations. A letter to such groups, followed by a personal contact, netted support in the form of the use of census promotional materials, piggybacking of mail-outs, etc. Smaller organizations were generally willing to co-operate but the impact of this dissemination medium appears to have been less than in the ethno-cultural communities.

7. The Regional Programs

The Regional Offices prepared individual public communication plans based on their previous experiences and on coverage and quality reports for their regions. Following two planning conferences in Ottawa, a Regional/Head Office accord was struck providing for strategy and responsibilities. Head Office undertook the materials support, media co-ordination, speakers' bureau support, most of the basic backgrounder writing, and all senior-level contact. Regions took responsibility for most of the initial contact and subsequent follow-up with company offices.

Each region's public communications activities were a distinct and separate campaign, largely reflecting the needs of that region and the opportunities available. For example, in Western Canada, an innovative orientation led to many new and effective forms of support from railway car advertising to stickers on meat packages. Quebec executed a highly successful and well-planned media tour. British Columbia obtained provincial government-sponsored advertising in support of the census. A special Census Day event was held at EXPO on June 3 to promote the census; the event was televised nationally. Ontario developed a local ethnic panel and directed a letter appeal to thousands of

regional organizations. Census posters, pencils, mugs and Indian art buttons were a feature of both the British Columbia and Toronto campaigns.

8. Media Strategy

Although the policy of no paid advertising limited the manner in which the media were to become involved, the mass media were well recognized as the single most effective means of reaching, both for awareness and co-operation, the majority of Canadians. The media strategy for the national program concerned itself with national media as well as contingency support to regions where local issues could have national implications. The result was a proactive media campaign to approach identified national mass media (TV, radio, print).

Media relations were integrated with the regular activities of Communications Division. A media officer was assigned in 1984 to the task team working with the PR consultant.

The early priority was the Northern Census for which news and promotional angles were exploited. For example, CBC Northern Services (Ottawa) broadcasted public service announcements (PSAs) on its radio and TV networks to promote the early enumeration in the North. Statistics Canada sponsored a women's cross-country ski team in the winter games in the Yukon, prepared a video as part of the Aboriginal Peoples' Program, and did some pro-active promotion of unconventional transportation in reaching people in out-of-the-way locations. Posters were designed and distributed. The Inuit Broadcasting Corporation aired a promotional video three times as part of their Sunday public affairs program and during interviews.

The media team then made preparations for the upcoming Census Day promotion, starting with news releases, media kits, feature articles, Census FACTS, Quick FACTS, Inklings, PSAs and meetings with key administrators and policy decision makers in the various media. Media organizations received a ministerial letter requesting support, which was followed by selective visits from senior agency personnel. Media tours were conducted and high-level staff gave detailed briefings for the media. Talk shows, press conferences and the like contributed to the creation of the general positive mood in the weeks before the census. The coverage received was extremely good, in spite of the lack of paid advertising.

The traditional use of PSAs on radio and TV was more restrained in 1986 than in 1981 (because in 1981 air time was also purchased) and the networks have since indicated that they will not continue to support PSAs for government program promotion. Despite these problems, significant media coverage was obtained, among both dailies and community newspapers. The vast majority of this coverage occurred prior to Census Day when the census was a major news story. News coverage declined significantly after Census Day.

A contingency plan was developed for what might have been adverse publicity over items such as operational failures, confidentiality concerns, etc. In addition, a contingency media-buy strategy was developed in case a last-minute emergency situation required a change in the paid advertising policy. A number of media crises did occur, but they were handled effectively without major repercussions.

9. Materials

Printed Materials

A wide variety of written materials were produced, including background pieces on specific census topics, general or ministerial correspondence, articles for the media and targeted group audiences, promotional brochures, posters, speech material and specialty pieces for regional or local use. Over 25 million individual promotional items, mostly inserts, were distributed across Canada. A professional artist was assigned to the census and the materials created were of a high quality and innovative design. The major design challenge was to develop materials that depicted the old, the young, the west, the east, the ethnic population, males, females, aboriginals, etc. The resulting materials were widely used; stocks of every promotional item were quickly depleted and reprints of several of the more popular items were required.

Audio-visual Materials

As part of the Public Communications Program, three types of audio-visual productions were made: a slide show, a musical video and video PSAs.

The slide show was based on one produced for the 1981 Census. It was updated and enhanced to include new technologies for output delivery products and more references to the Census of Agriculture. In addition, it balanced the photo and audio expressions of both genders and a range of minority groups. Six English and six French copies were made for a total of \$6,000.

Further efforts in Ottawa concentrated on the production of videos. A \$100,000 contract was negotiated with Spectel Video, Inc., a Montréal video production house.

Its purpose was to emphasize the primary message: "Census - June 3 - Count Yourself In" and other supportive messages, including confidentiality and usefulness of the census to Canada as a whole and to individuals.

The final result was three versions: three minutes, 30 seconds and 15 seconds in length, in both video and 35 mm editions, in English and French. These played to mixed reviews.

The Regional Offices in British Columbia and the Prairies developed a series of videos involving well known personalities endorsing the census. A series of similar videos were developed in Ottawa for French language media. These testimonial videos were very popular.

10.1.4 Critique and Evaluation

The 1986 Census Public Communications Program was a success. All operational objectives were met or exceeded and mail-back return rates - an early indicator - were good. On the basis of relative costs of promotion and the basic return rate, the 1986 Census was very successful.

The last two censuses have shown that active community-level promotion of the census message works. It should be continued as a vital pre-Census Day activity. Components of such a campaign should include the same elements as in 1986 (federal, provincial and municipal government, private sector, associations and special interest groups) and be based as much as possible in the Regional Offices.

By its very nature, the census is difficult to promote. It requires enough advance publicity to create awareness at a significantly higher level than otherwise can be expected between census days. However, feedback from the Regional Offices and through communications received at Head Office indicate that information around Census Day about drop-off, pick-up, reminders to return census forms, etc., was lacking in the two days prior to

Census Day and for the following two-week period. This kind of promotional reminder could best have been accomplished with a directed paid advertising campaign.

In conclusion, paid advertising should be a central part of the promotion of the census. To be cost-effective to the essential collection activities, it could be targeted to a very limited period starting within one or two days of Census Day and continuing for a period of up to two weeks after.

10.2 Census Marketing Project

10.2.1 Scope and Objectives

The Census Marketing Project was designed to build on the success of the Public Communications Program. It was given the responsibility of developing the necessary strategies and materials to market 1986 Census products and services. This was to be done in such a way that existing relationships with key census clients were strengthened and relationships with potential client groups developed. Included in the promotion of census products and services was the responsibility of planning the major releases of data.

The project's objectives were:

- to generate \$10 million revenue from the sale of census products and services;
- to promote and encourage the increased use of census data among select target groups;
- to integrate census marketing activities with the ongoing marketing activities of the agency; and
- to maintain and build on the base of support established through the 1986 Census Public Communications Program in preparation for the 1991 Census.

To accomplish these goals, the Marketing Project established a strategic framework based on two important assumptions: first, that the census is a service and second, that census marketing activities must be integrated with ongoing marketing activities in the agency.

Promoting the census as a service emphasized that the census data base was an important tool to solve the data problems of individuals. This service was provided by a flexible range of products, personalized customer service and commitment to the customer.

To integrate census and other agency marketing activities, the project began the strategic planning process by establishing working groups. Members of these groups were drawn from Communications Division, Census Operations, Regional Operations, Advisory Services and Publications Division. The overall coordination of the project was the responsibility of the Census Marketing Project, in the Communications Division.

Detailed information regarding the Census Marketing Project was documented in "A Strategic Plan for Marketing the Products and Services of the 1986 Census", Communications Division, December 1986. An operating plan was subsequently developed and is briefly described below.

10.2.2 Promotion of Products and Services

The flexibility of the census service permitted the development of different marketing strategies. Promotions were developed for specific target groups, focussing on client groups most interested in purchasing. Offering products designed to meet clients' specific needs was expected to produce higher sales and allow a stronger, more loyal relationship with that target group.

An existing client base was one of the most important assets to the organization. It provided valuable historical information on clients past and present, as well as insight into who might be potential clients. The Marketing Project used the existing base of information when identifying most attractive segments of the market and most effectively served by the census service. The existing client base included:

- customer service clients;
- 1981 publication buyers;
- 1981 user summary tape buyers;
- 1986 Public Communications supporters;
- 1991 Consultation Participants.

The clients were further categorized as follows:

- corporations and small business;
- associations;
- municipalities;
- provincial governments;
- federal government departments;
- depository libraries;
- foreign markets;
- educational institutions;
- general public.

Target audiences for the census service were informed of developments through a variety of means. In all instances the approach was carefully tailored to meet the needs and interests of the respective client group. The methods used included the following:

- targeted mailings demonstrating business uses and themes of interest of census data, and the flexibility of the product line to meet their needs;
- consultation sessions with customer services staff or data consultants in the Regional Offices;
- training sessions, speaking platforms and information seminars on census subjects and statistical techniques pertinent to users' data requirements;
- placement of articles in national and international journals, magazines, association communication vehicles and other print media promoting census services;

- consultation with provincial and territorial focal points on their requirements;
- information dissemination through existing Statistics Canada communications vehicles and provincial newsletters;
- development of a specific census marketing newsletter entitled 'Focus for the Future';
- mailings to MPs and senators;
- information exchanges with statistical agencies of other countries;
- media releases, fillers and articles, which continue to keep the census and its results in the news;
- distribution to Depository Libraries to meet public data requirements; and
- placement of promotional materials in public places such as libraries, government offices, universities, federal bookstores and authorized dealers.

10.2.3 Data Releases

The Marketing Project co-ordinated the strategic planning of each release as well as the production of marketing information materials for use on the day of release. Included among this was the writing and producing of the **Daily**, STC's vehicle for announcing releases, as well as the designing of data packages and kits. Throughout the entire census cycle, the Marketing Project co-ordinated the design requirements for census publications.

The release of census data occurred in four waves beginning with the interim population and dwelling counts in January 1987, followed by the final population and dwelling counts in April 1987, the 2A data base (100% data) in July 1987, and the 2B data base (20% data) beginning in December 1987, and ending in April 1988.

The real marketing challenge arose during the periods between the major releases, when relations were established with target audiences, either through the media, speakers' bureau, training workshops, or direct mail packages. No matter what combination of media was chosen, clients had to be attracted and then transformed into committed users of the census service.

10.2.4 Management Information System

The Management Information System provided senior managers with information on the dissemination and marketing activities from the 1986 Census. The reports, called Tracking Reports, were produced quarterly. They described activities, and where possible, measured their impact in a quantitative fashion.

10.2.5 Critique and Evaluation

Initial indications are that the Census Marketing Project has been very successful in encouraging use of census products and services among selected target audiences. This can be measured by the high demand for the marketing newsletter, **Focus for the Future**, and the number of inquiries received from business reply cards, interactive computer shows and the mail-back coupons in the general brochure.

When Regional Offices have identified marketing needs in their areas, Census Marketing has not only been able to respond quickly and efficiently with promotional plans and materials, but has successfully adapted materials to suit regional needs across the country. The continued positive response to promotions has increased mailing lists regularly and provided supportive clients for 1991 Census Public Communications efforts.

The organization and preparation of dedicated **Daily** issues to mark each of the data releases for the 1986 Census contributed to wide public exposure of the value of census information. In addition, all of the dedicated issues were compiled under separate cover and were used successfully with the educational market as well as for general marketing purposes.

Census Marketing has provided Regional Offices with materials and assistance to integrate its activities with regional initiatives. Joint projects include promotional sheets for education conferences, special promotions of geographic products and publications and training materials. Co-operative projects with other divisions have also met with enthusiastic response. These include the development of 2A catalogues and special order forms with Publications Division, information packages developed for Electronic Data Dissemination Division, and a variety of promotional sheets prepared for Geography and Geocartographics.

A full evaluation of the project will be undertaken at the end of the 1989-1990 fiscal year.

11. SELECTED ISSUES

11.1 Legal and Statutory Aspects

Requirements for census data are found in many acts and statutes. Some, like the Constitution Act, are sweeping in scope. Others have a more local context such as the Library Act of Nova Scotia.

Under the British North America Act of 1867, the taking of a census every 10 years became a constitutional requirement binding the federal government. Consequently, the first national decennial census was taken in 1871 to establish the boundaries of federal constituencies, to ensure fair representation by population in the federal parliament. This census enumerated the population of the four original provinces of Nova Scotia, New Brunswick, Quebec and Ontario.

A quinquennial census was introduced in 1906 for the Prairie provinces of Manitoba, Saskatchewan and Alberta to measure the rapid growth. As a result of major demographic changes taking place during and after World War II, the first nation-wide Census of Agriculture and Population was introduced in 1956, subsequently replacing the mid-decade census of the Prairie provinces.

The "legally required" data for a census are made explicit in the Statistics Act (1971). It requires that a Census of Population be taken every five years, and that population counts of each federal electoral district be determined. Similarly, Statistics Canada must take the Census of Agriculture every five years. Questionnaire content is prescribed by the Governor General in Council and must be published in the Canada Gazette not later than thirty days after it is finalized.

In addition to those legal demands stated in the Statistics Act, other federal legislation has direct and indirect impact on the census and its content.

The population of Canada by province, electoral district and enumeration area is required by the Electoral Boundaries Readjustment Act to determine federal and provincial electoral boundaries for the purpose of equal representation within each province.

The Representation Act provides for the number of members to represent the provinces in the House of Commons, based on the population as ascertained by each decennial census.

The Old Age Security Act states that the Minister of National Health and Welfare is entitled to information on age of any pensioner or applicant for a pension from the returns of any census taken more than thirty years before the date of the request. Similar requirements may be found in the Canada Pension Plan Act, the Blind Persons Act and the Disabled Persons Act.

The Federal-provincial Fiscal Rearrangements and Federal Post-secondary Education and Health Contribution Act requires that population counts from the census be used to calculate the distribution of transfer payments from federal to provincial governments, including equalization grants, assistance for postsecondary education and grants to hospitals and other health programs.

Other acts such as the Employment Equity Act and the Canadian Human Rights Act also mention the provision of information on individuals or groups, for which the census, although not specified, is a logical source.

There are many other requirements for census data under Canadian law, and a partial list is given in Appendix I of the Census Handbook (Cat. No. 99-104). As well, further information is given in Appendix I of A Strategic Plan for the 1991 Census, G. Goldmann, November 20, 1987.

11.2 Census Geography

11.2.2 Geographic Concepts and Delineation of Areas

11.2.1 Background

Before data collection can take place, geographic boundaries must be drawn to define the area of responsibility (i.e. enumeration area) for each Census Representative. Once collection and processing have been completed, data are disseminated by geographic areas ranging from the entire country to individual communities and neighbourhoods. Geographic coding occurs in many census operations. The Geography Division maintains the geographic structures that support census taking. This division:

- defines standard geographic concepts and delineates areas for which census data will be provided;
- delineates enumeration areas and prepares the census maps needed for field collection;
- transfers this information into a machine-readable, quality-assured geographic data base called the Census Geographic Master File (CGMF), allowing for complete retrieval flexibility for standard areas;
- identifies block-faces in large urban areas, and enumeration areas elsewhere, by a series of centroids. This allows retrieval of data for non-standard areas in a system called geocoding;
- prepares specifications and census products in cartographic form such as reference maps, thematic maps, atlases, and machine-readable cartographic libraries (see Appendix E);
- prepares specifications for census products, presenting population and dwelling count data in tabular form (print, microfiche and magnetic tape) to reflect the standard geographic structures. The division produces the data and reference documents outlined in Appendix E.

The geostatistical concepts for the 1986 Census are essentially the same as those for 1981. Data from the 1986 Census are available for numerous standard geostatistical areas, as well as for non-standard or user-defined areas. Standard geostatistical areas are of two types:

- legally defined administrative areas respected by the census such as federal electoral districts (FEDs) and census subdivisions (CSDs);
- statistical areas defined by Statistics Canada for data presentation, for example, census metropolitan areas (CMAs) and census tracts (CTs).

Administrative Areas

Administrative entities are geographic areas which, for the most part, are defined by other authorities and respected by the census. There are four such areas:

- provinces and territories;
- federal electoral districts (FEDs);
- census divisions (CDs), for example, counties;
- census subdivisions (CSDs), for example, municipalities.

Results of the 1986 Census of Population are published based on two different delineations of federal electoral districts: the 1976 Representation of the Electoral Boundaries Readjustment Act, the basis for census-taking operations, and the 1987 delineation, for which extensive data have been published.

Statistical Areas

Statistical areas, in contrast to most administrative entities, are defined by Statistics Canada to present census data. For the 1986 Census, there are 11 statistical areas:

- enumeration areas (EAs);
- regions of Canada;
- census metropolitan areas (CMAs);
- census agglomerations (CAs);

- primary census metropolitan areas (PCMAS) (new initiative in 1986);
- primary census agglomerations (PCAs) (new initiative in 1986);
- census metropolitan area/census agglomeration parts;
- census tracts (CTs);
- provincial census tracts (PCTs);
- census consolidated subdivisions (CCSs);
- urban and rural areas.

Non-standard Areas

Three non-standard geographic areas also play an important role in the dissemination of census data. They are:

- block-faces;
- postal codes, and;
- unincorporated places.

Geostatistical areas by province and territory are shown in Figure 18. These areas are arranged in hierarchies; the main links appear in Figure 19.

Definitions, historical boundary changes and descriptions of available maps are covered in other census reference products, including the **1986 Census Dictionary** (Cat. No. 99-101), the **1986 Census Products and Services - Final Edition** (Cat. No. 99-103), the **Census Metropolitan Areas and Census Agglomerations: A 1986 and 1981 Comparison** (Cat. No. 99-105) and the **1986 Census Geography: A Historical Comparison** (Cat. No. 99-106).

11.2.3. Geographic Products and Services

The Geography Division prepares a wide range of cartographic products including reference maps, thematic maps and atlases, and machine-readable cartographic libraries. In addition to recommending geographic structures for census outputs, it also specifies and/or produces many geographic data products and geographic reference documents. Geography Division also provides a number of services, as described in Appendix E.

11.2.4 Errors in Population and Dwelling Counts and Other Geographic Products

In an undertaking as large and complex as a national census, and because of the length of time between the various stages of planning, operation and production, errors and omissions are bound to occur.

Errors in population and occupied private dwelling counts have been identified since the release of final population counts in 1987. Most cases pertain to census subdivisions (CSDs), census tracts (CTs) and urban areas (UAs). These errors appear in the summary tapes, the *Population and Dwelling Counts* publications (Cat. No. 92-101 to 92-123) and *Profile* publications (Cat. No. 94-101 to 94-131, 95-101 to 95-174) containing the concerned area. For a summary of errors identified to date, see Figure 20.

Errors in the delineation of census consolidated subdivisions (CCSs) in Northern Quebec are presented in Figure 21. Finally, errors or omissions on census reference maps and in enumeration area reference lists have also been identified and are included in this chapter.

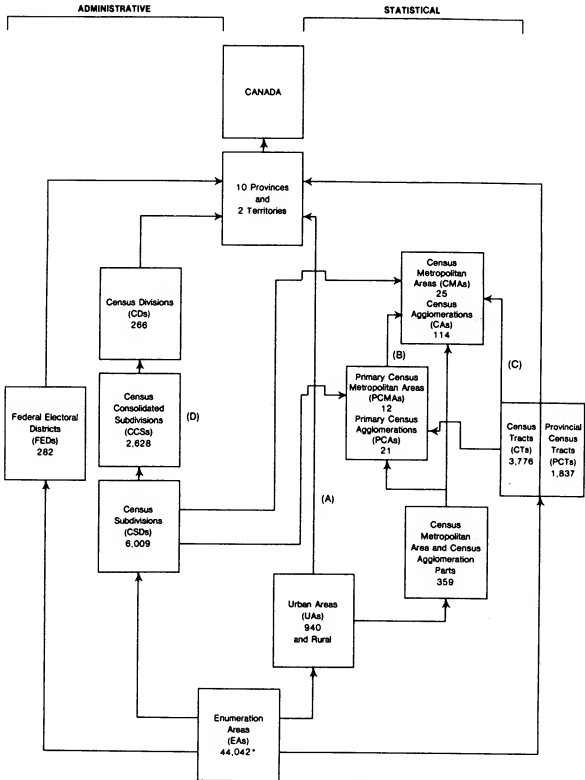
Figure 18. CENSUS GEOSTATISTICAL AREAS BY PROVINCE AND TERRITORY, 1986 CENSUS

	Total	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories
Federal Electoral District	262	7	4	11	10	75	95	14	14	21	26	1	2
Census Division	266	10	3	16	15	78	49	23	16	19	29	1	5
Census Division	70	10	-	-	-	-	-	23	16	19	-	-	-
County	136	-	3	16	15	78	24	-	-	-	-	-	-
District	10	-	-	-	-	-	10	-	-	-	-	-	-
District Municipality	1	-	-	-	-	-	1	-	-	-	-	-	-
Metropolitan Municipality	1	-	-	-	-	-	1	-	-	-	-	-	-
Region	7	-	-	-	-	-	-	-	-	-	1	1	5
Regional District	26	-	-	-	-	-	-	-	-	-	26	-	-
Regional Municipality	10	-	-	-	-	-	10	-	-	-	-	-	-
United Counties	3	-	-	-	-	-	3	-	-	-	-	-	-
Census Consolidated Subdivision	2,626	67	86	54	150	1,153	527	127	302	72	62	1	5
Census Subdivision	6,009	401	123	118	284	1,666	956	293	942	432	686	34	72
BOR : Borough	1	-	-	-	-	-	1	-	-	-	-	-	-
C : City - Cité	134	2	1	3	6	2	49	5	13	15	36	1	1
CM : County (Municipality)	30	-	-	-	-	-	-	-	-	30	-	-	-
COM : Community	182	140	42	-	-	-	-	-	-	-	-	-	-
CT : Canton (Municipalité de)	117	-	-	-	-	117	-	-	-	-	-	-	-
CU : Cantons unit (Municipalité de)	12	-	-	-	-	12	-	-	-	-	-	-	-
DM : District Municipality	47	-	-	-	-	-	-	-	-	-	47	-	-
HAM : Hamlet	30	-	-	-	-	-	-	-	-	-	-	1	29
ID : Improvement District	27	-	-	-	-	-	7	-	-	20	-	-	-
LGD : Local Government District	21	-	-	-	-	-	-	21	-	-	-	-	-
LOT : Township and Royalty	66	-	66	-	-	-	-	-	-	-	-	-	-
MD : Municipal District	32	-	-	12	-	-	-	-	-	20	-	-	-
NH : Northern Hamlet	14	-	-	-	-	-	-	-	14	-	-	-	-
NV : Northern Village	10	-	-	-	-	-	-	-	10	-	-	-	-
P : Paroisse (Municipalité de)	438	-	-	-	-	438	-	-	-	-	-	-	-
PAR : Parish	151	-	-	-	151	-	-	-	-	-	-	-	-
R : Indian Reserve - Réserve indienne	920	-	4	23	19	36	124	71	104	63	470	4	2
RM : Rural Municipality	404	-	-	-	-	-	-	105	299	-	-	-	-
RV : Resort Village	22	-	-	-	-	-	-	-	22	-	-	-	-
SA : Special Area	3	-	-	-	-	-	-	-	-	3	-	-	-
SCM : Subdivision of County Municipality	41	-	-	41	-	-	-	-	-	-	-	-	-
SD : Sans désignation (Municipalité)	450	-	-	-	-	450	-	-	-	-	-	-	-
S-E : Indian Settlement	32	-	-	-	-	2	12	7	1	-	3	7	-
SET : Settlement	42	-	-	-	-	-	-	-	-	-	-	13	29
SRD : Subdivision of Regional District	69	-	-	-	-	-	-	-	-	-	69	-	-
SUN : Subdivision of Unorganized	90	90	-	-	-	-	-	-	-	-	-	-	-
SV : Summer Village	50	-	-	-	-	-	-	-	-	50	-	-	-
T : Town	697	169	6	39	26	-	145	35	145	109	13	3	5
TP : Township	479	-	-	-	-	-	479	-	-	-	-	-	-
UNO : Unorganized - Non organisé	160	-	-	-	-	122	20	10	2	-	-	1	5
V : Village	255	-	-	-	-	255	-	-	-	-	-	-	-
VC : Village Crt	6	-	-	-	-	-	-	-	-	-	-	-	-
VK : Village Nekepi	1	-	-	-	-	1	-	-	-	-	-	-	-
VL : Village	962	-	-	-	62	215	119	39	332	122	46	4	1
VN : Village Nordique	12	-	-	-	-	12	-	-	-	-	-	-	-
Census Metropolitan Area	25	1	-	1	1	6*	10*	1	2	2	2	-	-
Census Agglomeration	114	5	2	3	5*	30*	32*	5*	7*	7*	22	1	-
Primary Census Metropolitan Area	12	1	-	-	-	3*	6*	-	-	1	2	-	-
Primary Census Agglomeration	21	1	-	2	-	4	6	-	-	2	4	-	-
Census Tract	3,776	39	-	74	64	996	1,610	148	91	351	403	-	-
Provincial Census Tract	1,837	84	26	117	96	491	410	91	148	169	183	5	7
Urban Area	940	57	7	39	39*	242*	252*	41*	69*	100*	92	1	6
Enumeration Area**	44,042	1,153	256	1,411	1,294	10,431	14,116	2,097	2,912	4,655	5,371	106	238

* CMAAs/PCAs, PCMAAs/PCAs and urban areas crossing provincial limits are counted in both provinces.

** Final count.

Figure 19. THE 1986 CENSUS GEOGRAPHIC HIERARCHY



(A) 5 urban areas cross provincial boundaries.

(B) 12 of the 25 CMAs and 2 of the 114 CAs are broken down into PCMs/PCAs.

(C) All 25 of the CMAs, but only 12 of the 114 CAs, have a census tract program.

(D) Defined by Statistics Canada, in conjunction with the provincial authorities, as a statistical area.

*Final count.

Figure 20. 1986 CENSUS - ERRORS IN POPULATION AND OCCUPIED PRIVATE DWELLING COUNTS

<u>Census Subdivisions</u>	<u>Reads</u>	<u>Should Read</u>
Newfoundland		
Division No. 8, Subd. C, SUN		
1981 Population	175	254
Little Bay, COM		
1981 Population	350	271
New Brunswick		
Canterbury, PAR		
1986 Population	678	623
1986 Occupied Private Dwellings	214	195
Meductic, VL		
1986 Population	182	237
1986 Occupied Private Dwellings	59	78
Rothsay, PAR		
1981 Population	1,162	1,378
Rothsay, T		
1981 Population	1,764	1,542
Quebec		
Kuujuarapik, VN		
1986 Population	193	616
1986 Occupied Private Dwellings	58	151
Mistassini, R		
1986 Population	1,967	1,968
1986 Occupied Private Dwellings	315	316
Mistassini, VC		
1986 Population	1	0
1986 Occupied Private Dwellings	1	0
Némiscau, R		
1986 Population	3	375
1986 Occupied Private Dwellings	0	59
Némiscau, VC		
1986 Population	372	0
1986 Occupied Private Dwellings	59	0
Sainte-Madeleine, VL		
1986 Population	1,732	1,508
1986 Occupied Private Dwellings	551	482
Sainte-Marie-Madeleine, PAR		
1986 Population	1,678	1,902
1986 Occupied Private Dwellings	540	609

Figure 20. 1986 CENSUS - ERRORS IN POPULATION AND OCCUPIED PRIVATE DWELLING COUNTS - Continued

<u>Census Subdivisions</u>	<u>Reads</u>	<u>Should Read</u>
Whapmagoostui, R		
1986 Population	852	429
1986 Occupied Private Dwellings	173	80
Ontario		
Savant Lake, S-E		
1986 Population	0	224
1986 Occupied Private Dwellings	0	59
Thunder Bay, UNO		
1986 Population	8,277	8,053
1986 Occupied Private Dwellings	2,740	2,681
Saskatchewan		
Cumberland House, NV		
1986 Population	862	935
1986 Occupied Private Dwellings	177	190
Division No. 18, Unorganized, UNO		
1986 Population	1,709	1,636
1986 Occupied Private Dwellings	487	474
Duck Lake, T		
1981 Population	705	819
Duck Lake, No. 463, RM		
1981 Population	1,057	943
Edenwold, No. 158, RM		
1986 Land Area (km ²)	891.17	888.99
White City, VL		
1986 Land Area (km ²)	3.68	1.50
Alberta		
Stettler, T		
1986 Population	5,147	5,135
1986 Occupied Private Dwellings	1,935	1,929
Stettler County No. 6, CM		
1986 Population	5,179	5,191
1986 Occupied Private Dwellings	1,613	1,619
British Columbia		
Capital Subd. B, SRD		
1986 Population	20,096	20,210
Colwood, C		
1986 Population	11,546	11,432

Figure 20. 1986 CENSUS - ERRORS IN POPULATION AND OCCUPIED PRIVATE DWELLING COUNTS - Continued

<u>Census Subdivisions</u>	<u>Reads</u>	<u>Should Read</u>
East Kootenay Subd. B, SRD		
1986 Population	7,118	7,121
1986 Occupied Private Dwelling	2,364	2,365
1986 Land Area (km ²)	9,232.83	9,243.13
Kootenay 1 (R)		
1986 Population	121	118
1986 Occupied Private Dwellings	37	36
1986 Land Area (km ²)	82.08	71.78
Enderby, C		
1981 Population	1,801	1,816
North Okanagan, Subd. A, SRD		
1981 Population	3,292	3,277
Port Simpson 1, R		
1986 Population	150	587
1986 Occupied Private Dwellings	36	156
Skeena - Queen Charlotte, Subd. A, SRD		
1986 Population	861	191
1986 Occupied Private Dwellings	248	69
Tsimpsean 2, R		
1986 Population	111	344
1986 Occupied Private Dwellings	32	91
University Endowment Area, SRD*		
1981 Adjusted Population	4,003	3,674
1986 Land Area (km ²)	14.28	14.13
Vancouver, C*		
1981 Adjusted Population	413,952	414,281
1986 Land Area (km ²)	112.94	113.09
*In 1986 publications, the 1981 population counts of these CSDs are incorrectly flagged with an "A".		
Yukon		
Carcross, SET		
1986 Population	209	142
1986 Occupied Private Dwellings	73	48
Carcross 4, R		
1986 Population	0	67
1986 Occupied Private Dwellings	0	25
<u>Urban Areas</u>		
Newfoundland		
Norris Arm		
1986 Population	184	954
1986 Occupied Private Dwellings	51	271
Newfoundland total urban population	334,732	335,502
total rural population	233,617	232,847

Figure 20. 1986 CENSUS - ERRORS IN POPULATION AND OCCUPIED PRIVATE DWELLING COUNTS - Concluded

<u>Census Subdivisions</u>	<u>Reads</u>	<u>Should Read</u>
<u>Census Tracts</u>		
Quebec, CMA		
CT 120.01		
1986 Population	8,271	8,036
1986 Occupied Private Dwellings	2,549	2,467
CT 120.02		
1986 Population	3,714	3,949
1986 Occupied Private Dwellings	1,133	1,215
Vancouver, CMA		
CT 44		
1981 Adjusted Population	5,029	4,700
1986 Land Area (km ²)	3.00	2.85
CT 69		
1981 Adjusted Population	3,345	3,674
1986 Land Area (km ²)	14.02	14.17
CT 118		
1981 Population	6,402	5,939
CT 130.02		
1981 Population	4,723	5,186
Montréal, CMA		
CT 632.01		
1986 Population	5,732	5,135
CT 632.03		
1986 Population	6,805	7,402

Figure 21. 1986 CENSUS - ERRORS IN CSD COMPONENTS, CCS POPULATION AND OCCUPIED PRIVATE DWELLING COUNTS IN PUBLICATIONS 92-113 AND 99-118

<u>Census Consolidated Subdivisions</u>	<u>Reads</u>	<u>Should Read</u>
Territoire du Nouveau-Québec, partie Lac-Vacher, UNO		
1986 Population	489	1,071
1986 Occupied Private Dwellings	85	275
CCS 24 98 919		
<u>Contains</u>		
24 98 655 Tasiujaq, VN		
24 98 885 Kawawachikamach, R		
24 98 919 Territoire du Nouveau-Québec, partie Lac-Vacher, UNO		
<u>Should Contain</u>		
24 98 450 Schefferville, V		
24 98 885 Kawawachikamach, R		
24 98 890 Matimekosh, R		
24 98 919 Territoire du Nouveau-Québec, partie Lac-Vacher, UNO		
Territoire du Nouveau-Québec, partie Rivière-Koksoak, UNO		
1986 Population	383	2,524
1986 Occupied Private Dwellings	65	500
CCS 24 98 939		
<u>Contains</u>		
24 98 640 Kangiqsualujuaq, VN		
24 98 939 Territoire du Nouveau-Québec, partie Rivière-Koksoak, UNO		

Figure 21. 1986 CENSUS - ERRORS IN CSD COMPONENTS, CCS POPULATION AND OCCUPIED PRIVATE DWELLING COUNTS IN PUBLICATIONS 92-113 AND 99-118 - Continued

<u>Census Consolidated Subdivisions</u>	<u>Reads</u>	<u>Should Read</u>
<u>Should Contain</u>		
24 98 570 Schefferville, VK		
24 98 640 Kangiqsualujuaq, VN		
24 98 650 Kuujuaq, VN		
24 98 655 Tasiujaq, VN		
24 98 690 Aupaluk, VN		
24 98 700 Kangirsuk, VN		
24 98 710 Quaqtaq, VN		
24 98 750 Kangiqsujuaq, VN		
24 98 939 Territoire du Nouveau-Québec, partie Rivière-Koksoak, UNO		
Territoire du Nouveau-Québec, partie Baie-d'Hudson, UNO		
1986 Population	6,681	3,958
1986 Occupied Private Dwellings	1,380	755
CCS 24 98 965		
<u>Contains</u>		
24 98 450 Schefferville, V		
24 98 570 Schefferville, VK		
24 98 600 Whapmagoostui, VC		
24 98 605 Kuujuarapik, VN		
24 98 620 Inukjuak, VN		
24 98 650 Kuujuaq, VN		
24 98 690 Aupaluk, VN		
24 98 700 Kangirsuk, VN		
24 98 710 Quaqtaq, VN		
24 98 730 Akulivik, VN		
24 98 750 Kangiqsujuaq, VN		
24 98 770 Salluit, VN		

Figure 21. 1986 CENSUS - ERRORS IN CSD COMPONENTS, CCS POPULATION AND OCCUPIED PRIVATE DWELLING COUNTS IN PUBLICATIONS 92-113 AND 99-118 - Concluded

<u>Census Consolidated Subdivisions</u>	<u>Reads</u>	<u>Should Read</u>
24 98 790 Ivujivik, VN		
24 98 880 Whapmagoostui, R		
24 98 890 Matimekosk, R		
24 98 965 Territoire du Nouveau-Québec, partie Baie-d'Hudson, UNO		
<u>Should Contain</u>		
24 98 600 Whapmagoostui, VC		
24 98 605 Kuujuarapik, VN		
24 98 620 Inukjuak, VN		
24 98 730 Akulivik, VN		
24 98 770 Salluit, VN		
24 98 790 Ivujivik, VN		
24 98 880 Whapmagoostui, R		
24 98 965 Territoire du Nouveau-Québec, partie, Baie d'Hudson, UNO		

ERRORS OR OMISSIONS ON MAPS

This list reflects known errors or omissions on maps.

Census Divisions and Subdivisions (Cat. No. 99-115)

Quebec, East Part

Rimouski, partie Rivière-Patapédia-Est, UNO (24 07 909), situated east of Rimouski, partie Lac-des-Eaux Mortes, UNO (24 07 919), is not labelled on the map.

Quebec, South Central Part

The labels for Thetford-Partie-Sud, CT (24 57 190) and Thetford Mines, V (24 27 240) are reversed.

The labels for Victoriaville, V (24 34 440) and Sainte-Victoire-d'Arthabaska, P (24 34 460) are reversed.

The labels for Repentigny, V (24 62 200) and Charlemagne, V (24 62 260) are reversed.

Saskatchewan, South Part

The text and arrow for Meota, No. 468, RM (47 17 001) incorrectly identify Saulteaux 159, R (47 17 813).

British Columbia

The SGC code for Trout Lake Alec 16, R (59 41 852) is incorrectly shown as (59 41 821).

The island CSD of Dolphin Island 1, R (59 49 801) is not labelled. This CSD appears just south of Prince Rupert.

Census Tracts

Calgary, Map 1 of 2

The northern boundary of CT 205 is incorrectly shown. This CT boundary should be shown as the Cochrane town limits.

Calgary, Map 2 of 2

The southern boundaries of CTs 001.11 and 001.12 are incorrectly shown. These boundaries should be shown as the Calgary city limits.

Edmonton, Map 1 of 2

The labels for CTs 142.02 and 142.04 are reversed.

Edmonton, Map 2 of 2

The label 142.02 should read 142.04.

Hamilton, Map 2 of 2

The northern boundary of CT 001.03 should read "Limeridge Rd.".

Kelowna, Map 2 of 2

Part of the western boundary of CT 008 follows "Burtch" not "Byrns".

Ottawa-Hull, Map 2 of 2

The boundary between CTs 131.01 and 131.02 reads "Athabaska Dr." but should read "Viewmount Dr.".

St. Catharines-Niagara, Map 1 of 4

The boundary between CTs 311.01 and 220 is incorrectly shown. This boundary should be shown as the Welland city limits.

The boundary between CTs 311.02 and 102 is incorrectly shown. This correct limits of these CTs are shown on the relevant G86-13 series maps.

Winnipeg, Map 2 of 2

The boundaries of CTs 100.01, 100.2, 110.03 and 600 are incorrectly shown. The correct limits of these CTs are shown on the relevant G86-13 series maps.

The southern boundary of CT 131 is incorrectly labelled. It should read "Harbison" not "Harrison".

ERRORS IN ENUMERATION AREA REFERENCE LISTS

Four systematic errors were identified in two 1986 EA Reference List publications. These errors are:

- 99-118 Enumeration Area Reference List - Census Divisions and Subdivisions, Quebec
 - page 18, bottom of the page - the EA group 205-208 is missing for FED 061
- 99-119 Enumeration Area Reference List - Census Divisions and Subdivisions, Ontario
 - page 1, bottom of the page - the EA group 276-279 is missing for FED 004
 - page 3, bottom of the page - the EA group 032-035 is missing for FED 052
 - page 18, bottom of the page - the EA group 209-213 is missing for FED 045

These errors do not appear on the machine-readable files, i.e. 1986 Census Geographic Master File or 1986 Geography Tape File. The errors appear only in these print publications.

11.3 The Census Budget

11.3.1 Background

In government a budget serves three main purposes: to establish the level of financial and other resources required to carry out the plans assigned to responsibility centre managers; to obtain Treasury Board and parliamentary approval of departmental programs and resource requirements; and to provide a basis for budgetary control.

11.3.2 Census Budgeting Process

The census budgeting process comprises the following activities:

Multi-year Operational Plan (MYOP) or Long-term Planning - The Census Manager is required to estimate the resources needed to complete the program on a five-year cycle. Annual totals for the current year and the next four years are detailed. Estimates of person-years, dollars and requirements such as computer resources must be provided. At the time of approval by Cabinet, the Census Manager must also provide a forecast covering the full cycle of the census.

Main Estimates - Based on the results of the MYOP, the main estimates are submitted to Treasury Board. When passed by parliament, they become the authorized level of spending for the upcoming year.

Budget Year Operational Plan - The operational plan for the current year is prepared by completing a budget for each program element. The program element budgets are totalled to create the budget at the divisional or Finance Responsibility Centre (FRC) level.

Program Element Budgets - All program element managers must complete detailed budgets by month for the current year.

Finance Responsibility Centre (FRC) Budgets - Program element budgets and some overhead items such as telephone requirements are added to create divisional or FRC budgets.

Financial Reviews and Forecasts - Financial reviews are conducted at strategic points throughout the year to determine the status of budget vs. expenditures. Forecasted expenditures to year-end can be determined based on changes to programs or new budgetary and spending constraints.

11.3.3 Preparation of the 1986 Census Budget

Total cost of the 1986 Census was prepared by estimating costs for each proposed census module. The estimates, covering the six-year period 1983-1984 to 1988-1989, were based on detailed analyses of collection, processing, marketing, output, data quality and planning/management. Each category was subdivided. Statistics Canada then submitted the request to Treasury Board.

11.3.4 Funding of the 1986 Census of Population

As stated in the "Decision of Treasury Board Meeting of March 29, 1984 (TB 793008)", the major share of the total \$151 million (1983-84 dollars) for the 1986 Census would be funded with \$59.5 million from existing STC resources, \$8.2 million from the Services to Government Policy Reserve, and \$75.1 million from the Operating Reserve. Necessary adjustments would be determined through the multi-year operational plan (MYOP). The Treasury Board agreed that departments benefitting from certain census questions should contribute \$8.1 million towards its cost.(1)

The Treasury Board also agreed that departmental contributions over fiscal years 1985-86 through 1988-89 would be made through the process of journal vouchers, to be arranged between the individual departments and Statistics Canada.

The national 1986 Census, approved by the government in June 1984, was cancelled in November 1984 by the Minister of Finance in his economic statement. Cancellation was expected to save \$100 million.

In response to representations from a broad range of sectors, the government announced reinstatement of the census on December 21, 1984 (see Chapter 2). With the reinstatement, Statistics Canada was still required to save \$100 million on its total activity over the five-year cycle. The census was to

contribute to this goal by saving \$9 million on operations, by using \$30 million in Youth Employment Program funds to hire 25,000 census staff, and by increasing revenues through the sale of census products and services. The balance of the savings were to be achieved through substantial increases in cost-recovery products and services, as well as increased efficiency in operation integration, regionalization and survey redesign.

The \$9 million savings on 1986 Census operations resulted in reduced questionnaire content, saving \$0.5 million; reduced expenditures on public communications saving \$2.5 million, (largely from elimination of paid advertising); reduced evaluation of content saving \$1.0 million; reduced publications and marketing expenditures, saving \$2.5 million; and modifications for collection operations, saving \$2.5 million. These savings were reduced by \$1 million because of the additional funding required to produce the bilingual census questionnaires as directed by the Cabinet.

11.3.5 Cost of the 1986 Census

A national census is an immense undertaking involving a great deal of preparation and follow-up. A total figure for any census must include costs for the years in which the census work was initiated, the actual census year, and the years to complete and release outstanding publications.

The census year 1986-87 accounted for approximately 60% of total expenditures. The actual cost of the 1986 Census in dollars and person-years is shown in Figure 22.

(1) Employment and Immigration Canada, Secretary of State, Canada Mortgage and Housing Corporation, Indian and Northern Affairs Canada, Energy, Mines and Resources Canada, Health and Welfare Canada, Regional Industrial Expansion, Transport, Agriculture, Ministry of State for Science and Technology.

Figure 22. COST OF THE 1986 CENSUS

<u>Year</u>	<u>Person- years</u>	<u>Expenditures</u> ⁽¹⁾ (\$000s of current year dollars)
1982-83	43	1,544
1983-84	104	3,905
1984-85	180	5,786
1985-86	417	25,909
1986-87	1,194	90,255
1987-88	277	11,835
1988-89	120 ⁽²⁾	6,666

(1) Figures include:

- (a) cost of census accommodation;
- (b) Aboriginal Peoples Program;
- (c) Employee Benefit Plan.

(2) Preliminary figure.

11.4 Aboriginal Enumeration

11.4.1 Background

The issue of how to enumerate Canada's aboriginal peoples is recurrent. For the 1981 Census, the collection on Indian reserves was the topic of a sub-task of the Special Enumeration Alternatives task. For 1986, a number of organizational groups were concerned with this issue: the Aboriginal Task Force, the Indian reserve sub-task of the Collection Specifications task and the Aboriginal Peoples Program. This latter entity was established as the result of the Federal-provincial Conference on Aboriginal Constitutional Matters where it was resolved that special measures to improve aboriginal statistical data were necessary. Changes to 1981 methodology were introduced and new initiatives launched.

Many aboriginal persons live on federally protected land, known as Indian reserves and settlements. However, native peoples are also residents of other communities throughout Canada. As a result, special measures were developed to address enumeration on reserves and settlements, while other initiatives were intended for aboriginal peoples off reserve. Some measures were applicable to all aboriginal peoples, regardless of their place of residence.

11.4.2 Special Measures

For the 1986 Census, every aspect of the census system was affected by changes and new initiatives concerning aboriginal data collection. In fact, this customized approach constituted a system within a system which can be referred to as the Aboriginal Peoples' component.

These special measures are as follows:

Collection

- Canvasser methodology, subject to change when warranted, was used in enumeration of all households on Indian reserves.

- Special procedures manuals and training programs were designed for enumeration on Indian reserves.
- The questionnaire was made available in seven native languages.
- Native persons were hired as Census Representatives.

Data and Data Products

- A new question was defined concerning aboriginal identity, i.e. Inuit, Métis, Non-status and Status Indian, and was asked of 100% of the population.
- Special publications of data products on aboriginal data were planned for dissemination to native organizations, tribal councils and band councils.

Data Quality

- Special measures were implemented to ensure and measure data quality. These included the verification of reserve boundaries, a separate response rate study for Indian reserves, 100% sampling for all Indian reserves, and mandatory follow-up for the question on aboriginal identity.

Publicity

- Extensive consultations took place with aboriginal communities to determine data needs.
- Advance visits were made to acquaint band councils with the census and to obtain their co-operation.
- A special liaison program was implemented as part of the Aboriginal Peoples Program. A network of 30 aboriginal liaison officers, separate from collection staff, was established in the regions and reported to a coordinator in Head Office. Their role was to deliver public communications material, to conduct visits to reserves, Native Friendship Centres and other native contact points, and to promote participation in the census.

- News releases, booklets, brochures, posters, videos and radio and television interviews were prepared with special emphasis on native participation.

11.4.3 Critique and Evaluation

Problems were encountered in collecting data on the aboriginal population. Native leaders of 136 Indian reserves refused to allow census enumeration to take place and, therefore, no data were collected for persons residing on these reserves. The total population of the non-enumerated reserves has been estimated at just under 45,000. This accounts for approximately 8% of the total aboriginal population and one-fifth of the on-reserve aboriginal population. The reasons given for these refusals varied, and included disagreement on issues of sovereignty, the status of ongoing negotiations on land claim settlements or constitutional concerns, and as indicated by some correspondence, insufficient pre-census communication.

A number of measures were taken to deal with the ensuing missing or incomplete data. In view of the missing data, all census output products were annotated to identify incompletely enumerated reserves. Estimates of the missed population were produced for Canada and the provinces and these were included in the final official population counts. However, it was not possible to make reliable estimates of the missed population at geographic levels below the provincial level, nor was it possible to estimate any characteristics of the missed population. Therefore, all census output, except for the total national and provincial population counts, are based on the enumerated population.

A second problem with the aboriginal data was a significant response error to the new census question asking respondents whether they consider themselves to be an aboriginal person. As previously mentioned, a new question on aboriginal identity was asked of all respondents to the 1986 Census to meet demands for

aboriginal data. This question was asked of 100% of the population instead of, as in 1981, a sample. This new question appeared as follows:

7. Do you consider yourself an aboriginal person or a native Indian of North America, that is, Inuit, North American Indian or Métis? (See Guide)	
33 <input type="checkbox"/>	No, I do not consider myself Inuit, North American Indian or Métis
34 <input type="checkbox"/>	Yes, Inuit
35 <input type="checkbox"/>	Yes, status or registered Indian
36 <input type="checkbox"/>	Yes, non-status Indian
37 <input type="checkbox"/>	Yes, Métis
38 <input type="checkbox"/>	

Early analysis of the responses indicated that up to approximately 125,000 non-aboriginal persons (about 0.5% of the total population) may have misunderstood the question and reported themselves as aboriginal. A small follow-up survey of suspect responses confirmed the problem. This level of response error resulted in unreliable data because only about two to three percent of the total population was expected to answer affirmatively. There is evidence that aboriginals may also have had some difficulties in responding to this question, due to a change in the Indian Act of Canada (July 1985) which allowed persons who had previously lost their status as Indians under the Act to be reinstated as status Indians. They may have been confused as to what to mark if they had applied for re-instatement but not yet received it.

These data quality problems led to the decision to withhold official release of the data from the new aboriginal question. Fortunately, data on the aboriginal population are available from the question on ethnic origin which included three aboriginal categories (North American Indian, Métis and Inuit).

Other Data Quality Issues among Reserve Populations

Lower response rates among reserve populations that did participate were observed for other questions, particularly those dealing with some dwelling characteristics such as shelter costs and tenure. The problem is application of the concept of land ownership. Since all reserve land is held in trust by the federal government and no land is owned in the same way as it is off-reserve, certain concepts of shelter costs and tenure on many reserves are inappropriate. In light of these constraints, modifications were made to the 1986 publications. Reserve housing, a new category in tenure, was added to describe the tenure status of all dwellings on reserves. When tabulating shelter costs, reserve housing is excluded to show that the situation of payment differs from that off-reserves. Response rates to other questions were found to be somewhat lower than those for the off-reserve population.

The following data products and reports related to aboriginal output have been prepared by the 1986 Census Aboriginal Peoples Output Program:

1. Review and Assessment of the Aboriginal Peoples Component of the 1986 Census of Canada, J. Nicholson, May 1987.
2. 1986 Census Data Quality Note on Question 7 (Aboriginal Status), J. Hagey, July 1987.
3. Aboriginal Peoples Component of the 1986 Census: A Status Report by the Aboriginal Peoples Output Program, August 1987.

4. Summary of the Methodology for Estimating the Population and Occupied Private Dwellings on Incompletely Enumerated Indian Reserves, User Information Bulletin No. 1, October 1987.
5. Assessment of Data on Aboriginal Identity, 1986 Census of Canada, A. Créghœur, 1987.
6. Summary Tabulations of Ethnic and Aboriginal Origins, Canada, Provinces, Territories and Census Metropolitan Areas - December 1987.
7. Demographic Characteristics of the Total Population Residing on Selected Census Subdivisions (Indian Reserves, Settlements or Communities) - February 1988.
8. 1991 Collection Project Special Studies Task, Aboriginal Peoples Sub-task, Problem Definition Report, P. Johannis, 1988.
9. Socio-economic Characteristics of the Total Population Residing on Selected Census Subdivisions (Indian Reserves, Settlements or Communities) - 1st Quarter, 1989.
10. A Data Book on Canada's Aboriginal Population from the 1986 Census of Canada, Aboriginal Peoples Output Program - March 1989.
11. Canada's Aboriginal Population by Census Subdivisions from the 1986 Census of Canada, Aboriginal Peoples Output Program - March 1989.

APPENDICES

APPENDIX A. REVISIONS TO THE 1981 CENSUS QUESTIONNAIRE FOR THE 1986 CENSUS

The questionnaire and guide for the 1986 Census were developed by revising the questionnaire and guide for the 1981 Census. Various changes to question wordings and response categories are given below. Unless indicated otherwise, question numbers refer to the 1986 questionnaire. The 1986 questionnaire and guide may be referenced in Appendix B, and the 1981 questionnaire and guide in Appendix C.

1. Editorial changes reflecting new concepts, strategies or procedures

Questionnaire Front Cover. The opening paragraph of the 1981 questionnaire explained how to obtain a form in the other official language. Thanks to the new drop-off procedures adopted in 1986, this paragraph was no longer necessary. In 1981, the subsequent two paragraphs dealt, respectively, with the legal basis for the census and with confidentiality of the information provided by respondents; in 1986, the order was reversed so that the opening paragraph of the questionnaire addressed confidentiality first. (The text itself was also reworded.)

Unlike 1981, the front cover had three small boxes labelled UD, M and DC. The UD box identified unoccupied dwellings that were part of the housing stock even though they were vacant. The M box indicated a "marginal" or "seasonal" dwelling included in the census because it was occupied but was not considered part of the housing stock because it was not suitable for year-round living. The DC box recorded a dwelling under construction that was occupied although it could not yet be considered suitable for year-round living.

Question 5, Marital status. For the purpose of census publications and tabulations, common-law unions are usually counted together with conventional husband-wife families. For this reason, the 1981 Census Guide requested cohabiting persons to report their marital status as "now married". The evaluation of the 1981 data, however, revealed that this

instruction was largely disregarded by respondents. The 1986 instruction, therefore, was modified to read "persons in a common-law type of relationship should mark one of the boxes 'separated', 'divorced', 'widowed' or 'never married'" In order to produce data comparable with those from previous censuses, the 1986 Edit and Imputation System changed the marital status of cohabiting persons to "now married"; this is the marital status retained on the retrieval data base for normal tabulation purposes. At the same time, data obtained from the unedited data base may provide further information on the actual marital status of cohabiting persons.

Question 6 (1986 and 1981), Mother tongue. The 1981 instruction "mark one box only" was deleted, reflecting the new approach which permits multiple responses; the 1986 Guide was also altered to reflect this change (see paragraphs 2 and 3 of the 1986 instructions to Question 6, Appendix B).

2. Editorial changes reflecting new technologies or changing circumstances

Question 12, Main type of heating equipment and principal heating fuel. The response categories of the pertinent 1981 Questions 17 and 18 were modified and new explanatory notes were included in the 1986 Guide.

Questions 21(b) and 21(c), Years of schooling at university and non-university institutions. As a consequence of representations made by the Quebec government, the Guide instructions concerning education in classical colleges in Quebec were modified from 1981 (Question 32).

Question 24, Mobility (place of residence in 1981). The 1981 category "different dwelling in this city, town, village, borough or municipality" was changed to "different dwelling in this city,

town, village, township, municipality or Indian reserve". Replacing "borough" with "township" reflects the virtual disappearance of boroughs and the increase in the number of townships. Indian reserves were added to reflect the increased interest in Canada's aboriginal peoples.

3. Changes made to response categories in order to obtain more data

Question 32, Income. The 1986 question listed 11 categories of income (including total income). Among these categories were "old age security pension and guaranteed income supplement" and "benefits from Canada or Quebec Pension Plan"; in 1981, these two categories had been combined. Similarly, the two 1986 categories "retirement pensions, superannuation and annuities" and "other money income, e.g., alimony, scholarships" had been combined in 1981 under one heading. The 1986 Guide instructions were reworded to reflect these changes (see also item 4).

Question 17, Ethnic origin. This was a very popular variable with 1981 Census data users. It underwent several changes in 1986, designed to, among other things, elicit more accurate data on visible minorities:

- The question wording was modified from the 1981 version, which asked "To which ethnic or cultural group did you or your ancestors belong on first coming to this continent?"
- A new mark-in box for "Black" was added.
- The number of write-in spaces was increased from one to three.
- The 1981 categories "Status or registered Indian" and "Non-status Indian" were replaced by "North American Indian".

- The ordering of answer categories was changed to more accurately reflect the relative sizes of Canada's ethnic populations.
- An instruction to mark or specify all applicable categories was included, whereas in 1981 multiple responses were accepted but not specifically encouraged.

4. Wording changes to improve clarity and response accuracy

Question 1, Name. The 1981 instructions concerning inclusion and exclusion of household members were revised for 1986, however, the strategy remained basically unaltered. The changes were:

- The 1981 instructions for Question 1 specified "order of listing of household members" and "whom to include" (in that order); the 1986 instructions reversed the order.
- The 1981 instruction to exclude "persons permanently away in the Armed Forces" was deleted.
- The 1986 instructions added the specification to include "a husband, wife or common-law partner who stays elsewhere while working but who returns to this home periodically". No equivalent instructions appeared in 1981.
- Concerning students, the 1981 instructions specified the exclusion of "postsecondary students who are financially independent and who live elsewhere"; in contrast, the 1986 text specified inclusion of "unmarried sons or daughters who are postsecondary students, unless they are financially independent and living elsewhere".

- Concerning infants born around Census Day, the 1981 instructions specified inclusion of "infants born on or before" Census Day, and exclusion of "infants born after" Census Day. The 1986 instructions deleted the latter part concerning exclusion because it was redundant.
- A number of minor changes were also introduced. For example, the 1981 instruction to include "unmarried persons who have a home elsewhere but stay in this dwelling most of the week while working" was reworded in 1986 as "unmarried persons who live here while working, even if they return to another home periodically".

Question 6 (1986 and 1981), Mother tongue. The 1981 Guide instructions, consisting of two brief lines, were expanded.

Similarly, the Guide instructions for 1986 Questions 18, Home language, and 19, Official language, were restructured similar to the Guide instructions for Question 6.

Question 9, Tenure (dwelling owned or rented). The 1986 question addressed the respondent, specifically asking "Do you (or does any other member of this household): Mark one box only - own this dwelling (even if no cash rent is paid)?" The 1981 version (Question 11) addressed tenure as follows: "Is this dwelling: Mark one box only - owned or being bought by you or a member of this household? or rented (even if no cash rent is paid)?"

Question 15, Citizenship. The instructions to the citizenship question were thoroughly revised in 1986, to be more detailed and explicit than the 1981 counterpart (Question 24).

Question 25, Labour force activity. The instructions in both the questionnaire and the Guide were revised. In both years respondents were instructed to include among the hours worked "last week" any time spent "working for wages, salary, tips or commission", "working in your own business, farm or professional practice", and "working without pay in a family farm or business"; this set of instructions was retained in 1986 but the order was changed, placing "working without pay in a family farm or business" first. When evaluating the 1981 data, analysts suspected an undercount of persons who pertained to this latter category; placing the pertinent instruction first was designed to reduce this undercount. A similar change in sequence of examples was effected, for a similar reason, in Question 31(a), weeks worked in 1985: in the 1981 questionnaire, "on vacation..." and "self-employed..." followed "worked full time or part time" - in 1986, the order was reversed.

Question 29, Occupation (type of work, most important duties). The 1981 Guide instructions opened with a two-line explanation: "This two part question is asked to ensure that there is enough information to place people who do similar kinds of work in the same occupational group". This paragraph was expanded in 1986 to read: "The description should be as precise as possible and you will probably need to use two, three or more words in each part of the question. The description should avoid using terms such as worker, employee, etc., in favour of specific descriptions of the kind of work". Additionally, the following guideline was added in 1986: "Members of religious orders engaged in activities such as

primary school teaching, nursing should report these rather than religious activity."

Question 30, Class of worker (employee, self-employed, etc.). The Guide instructions were expanded in 1986. The 1981 response boxes to this question (Number 44) were modified slightly to improve clarity and response accuracy; thus, the box "working without pay for a relative" was changed to "working without pay for your spouse or another relative"; and box legend "self-employed..." was changed to "self-employed... (alone or in partnership)".

Question 32, Income. The 1986 Guide instructions to the 11-part question on income show numerous changes relative to 1981. Among these are the addition of paragraphs advising respondents:

Q. 32(a) - "If consulting T4 slips to answer this question, report income shown in box C of the T4 Federal Income Tax slips, less the value of 'taxable allowances and benefits', shown in boxes K to O."

Q. 32(b) - "Artists, writers, music teachers, hairdressers, dressmakers, etc. should report their net income from free-lance activities."

Q. 32(g) - "Include, if applicable, provincial tax credits and allowances such as 'Nova Scotia Tax Credits', 'New Brunswick Tax Credits', 'Quebec Real Estate Tax Refund', 'Allowances for Children Under Age 6', 'Ontario Tax Credits'... as claimed on your income tax return."

Q. 32(h) - "Also report here dividends received from foreign stocks."

Q. 32(i) - "Do not include lump-sum death benefits, lump-sum benefits and withdrawals from a pension plan or RRSP or refunds of overcontributions. Severance pay and retirement allowances and pensions from outside Canada should be entered in Question 32(j)."

In addition to these new paragraphs, many others were thoroughly revised and expanded. As an example, compare the 1981 (Question 46) and the 1986 (Question 32) Guide instructions concerning income from retirement pensions, superannuation and annuities.

Apart from the major revisions noted above, the Guide instructions to the 1986 income question also incorporated many minor changes. The following examples serve as illustrations:

Q. 32(c) - to the 1981 instruction "exclude the value of income 'in kind'", the 1986 text added "such as agricultural products produced and consumed on the farm".

Q. 32(g) - to the 1981 instruction "include provincial income supplements", the 1986 text added "i.e. provincial payments to seniors to supplement Old Age Security and Guaranteed Income Supplement".

Q. 32(h) - the 1981 instruction to "include interest" was changed to "include investment income".

Q. 32(j) - to the 1981 list of examples of "other money income", the 1986 text added "severance pay; royalties; strike pay".

For other changes to Q.32, see also pages 152 and 153.

5. Miscellaneous changes

The introduction in the 2B Guide was completely rewritten for 1986. The revised text was included with the 2B Guide only; however, the 2A Guide, being part of the 2A questionnaire itself, had no introduction.

2B Guide, rationale for questions. The closing paragraph of the explanatory notes to each of the 1986 questions ended with a presentation of the rationale for asking each question. This innovation was introduced at the express request of the minister in charge, when the 1986 Census was reinstated (Section 3.3).

Questions 25(e), Labour force activity, and Question 26, When last worked. In 1981, both questions were unaccompanied by Guide instructions; in 1986, notes were provided.

Question 27, Industry (employer, name of firm, kind of business). The 1986 Guide contained the following new instruction: "If you worked as an employee in a private household, enter the name of the family for whom you work and write: 'private household.'"

Minor Changes Introduced in 1986

1. Changes to examples provided with instructions

Question 2, Relationship to Person 1. The 1981 question provided four examples of "other" relationships; the 1986 version added an important fifth example, "common-law partner of son or daughter".

Question 8(c), Person responsible for household payments and "coverage". The 1981 examples of household members who might have been omitted included "a new baby still in hospital, or a former occupant of this household who has become a patient in a hospital or sanatorium"; the 1986 examples

were revised to include "a new baby still in hospital, live-in help, or a member of this household who has become a patient in a hospital or nursing home".

Question 27(b), Industry (employer, name of firm, kind of business). The 1981 examples given with the instructions included "paper box manufacturing, road construction, retail shoe store, secondary school, dairy farm". The 1986 list of examples cited "wheat farm, trapping, road maintenance, retail shoe store, secondary school, temporary help agency, municipal police". Trapping was added to emphasize a trade of significance to the aboriginal population; road maintenance replaced road construction in order to underscore the distinction between the two; and municipal police was added in an attempt to obtain detailed data on the three levels of police forces in Canada. Correspondingly, the 1986 Guide provided respondents with a table comparing complete and incomplete responses; no such table was included in 1981.

Question 29, Occupation (type of work, most important duties). In this two-part item, the 1981 examples included, among other things, sales representative, metal worker, selling electrical tools, operating lathe. These were deleted from the 1986 list of examples; however, the following, were added: door-to-door salesperson, food processing laborer, fishing guide, selling cosmetics, cleaning vegetables, guiding fishing parties.

2. Changes in response categories

Questions 6, Mother tongue, and Question 18, Home language. The response categories listed were changed to reflect the recent changes in group size. Thus, the 1981 mother tongue question listed the response categories German and Italian (in this order); the

order was reversed in 1986. Similarly, the 1981 home language question listed German, Italian and Ukrainian, while the 1986 version listed Italian, Chinese and German.

Question 10, Period of construction of dwelling. For buildings erected after 1976, the 1981 questionnaire provided the response categories: 1976-1979, 1980, 1981. The 1986 categories were: 1976-80, 1981-85, 1986.

Question 21(a), Years of schooling, and Question 25(a), Hours worked last week. In 1981, these questions provided one box to be checked for zero, and another box for printing a value other than zero. In 1986, the order of these boxes was reversed.

3. Text additions and wording changes to improve clarity

Question 8(a), Person responsible for household payments and "coverage". The 1981 instruction "Mark here and answer the dwelling questions" was changed to "This person shall answer Questions 8(b) to 13." Also, the 1986 Guide added the following clarifications:

Q. 8(a) - "If more than one person is responsible for such payments, enter the name of the person who usually pays the largest amount."

Q. 8(d) - "Every Canadian or landed immigrant should be enumerated as either a permanent or temporary resident of the dwelling he/she occupied overnight between June 2/3, 1986. Visitors, students or married workers with another usual home are examples of temporary residents."

Question 13, Payments for shelter, value of dwelling, condominiums. (Questions 20 and 22 in 1981). Guide instructions were added in 1986 to Questions 13(b) and (f), in addition to the revisions made to Question 13(h).

Question 21(a), Years of schooling. The 1981 legend to the box "no schooling or kindergarten only" was altered in 1986 to "never attended school or attended kindergarten only". Minor changes were also made in the Guide instructions. Thus, the 1981 text "indicate the highest level of education attended" was modified in 1986 to "indicate the highest grade or year attended"; and the 1981 text "if you are attending a school for the retarded" was modified to "if you are attending a special education school".

Question 25(e), Labour force activity. The 1981 question was worded: "Was there any reason why you could not start work last week?" This was followed by five response categories, the first of which was worded in the negative: "No, could have started work". For improved clarity, the 1986 question was revised to read: "Could you have started work last week had a job been available?" This version was again followed by a series of five response categories, but in this case, the first box was worded in the positive: "Yes, could have started work".

Question 31, Weeks worked in 1985, for full time/part time. The 1981 Guide instruction to "enter 52 weeks if you were paid for the full year" was expanded in 1986 by adding "or if you operated a farm, business or professional practice for the full year". Also, the 1986 Guide provided the following clarification: "part-time work is that work which is less than the normally scheduled weekly hours of work performed by persons doing similar work."

Question 32(f), Income. The 1981 category "Benefits from Unemployment Insurance" was changed to "Benefits from Unemployment Insurance (total benefits before tax deductions)".

4. Other wording changes

Question 5, Marital status; Question 18, Home language; and Question 19, Official language. The 1981 note "see Guide for further information" was shortened in 1986 to "see Guide".

Question 14, Place of birth. The 1981 instruction to "mark" a birthplace category was changed to "mark or specify", since persons born in most foreign countries have to "specify" (i.e. write-in) rather than "mark" a pre-printed box.

Question 15, Citizenship. The 1981 instruction "mark as many boxes as apply" became "mark more than one box, if applicable".

5. Miscellaneous changes

"Filter question" (between Questions 20 and 21). In 1981, the "filter question" was listed as Question 30; in 1986 it appeared without a number.

Question 16, Year of immigration. The 1981 question "In what year did you first immigrate to Canada?" was accompanied by the Guide instruction "Report the year when you first immigrated to Canada." This instruction was deemed superfluous and was therefore deleted in 1986.

Question 32, Income. The 1981 question "During the year ending December 31, 1980, did you receive any income..." was changed for obvious reasons to "During the year ending December 30, 1985, did you receive any income..." Similarly, the reference dates were updated in Question 24 concerning change of address since the previous census.

Statistics
CanadaStatistique
Canada

APPENDIX B. 1986 CENSUS QUESTIONNAIRE AND GUIDE

Canada



1986 Census of Canada

Please complete your questionnaire on
Tuesday, June 3, 1986

Prov	FED No	EA No	VN	2 D B	1	
Hhd. No.	Form type 3	No. of persons	Quest. No.			
<td> <input type="checkbox"/> TD <input type="checkbox"/> UD </td> <td> <input type="checkbox"/> M <input type="checkbox"/> DC </td> <td> <input type="checkbox"/> TR <input type="checkbox"/> FR </td>				<input type="checkbox"/> TD <input type="checkbox"/> UD	<input type="checkbox"/> M <input type="checkbox"/> DC	<input type="checkbox"/> TR <input type="checkbox"/> FR

CONFIDENTIAL WHEN COMPLETED

Only persons sworn to secrecy under the Statistics Act will have access to your completed questionnaire. Information derived from this questionnaire will be treated in accordance with the confidentiality provisions of the Act. Persons who have been sworn to secrecy under the Act are subject to prosecution if they violate these provisions.

Legal requirement

The information sought in this questionnaire is collected under the authority of the Statistics Act. Everyone is required to provide this information.

Please complete address or exact location:

Street and No. or lot and concession

 City, town, village, municipality, Indian reserve

 Province or territory Postal code
 Telephone number:

To Temporary Residents

If all members of this household are **Temporary Residents** (that is, persons staying here temporarily who have a usual home elsewhere in Canada), enter the total number of temporary residents in this box and do not complete this questionnaire. Follow the return instructions indicated on the envelope which contained this questionnaire.

To Foreign Residents

If all members of this household are **Foreign Residents** (see below), mark here ☐ and do not complete this questionnaire. Follow the return instructions indicated on the envelope which contained this questionnaire.

Foreign Residents are persons in any one of the following categories:

- government representatives of another country attached to the legation, embassy or other diplomatic body of that country in Canada, and their families;
- members of the Armed Forces of another country, and their families;
- students from another country attending school in Canada, and their families;
- workers from another country in Canada on Employment Visas, and their families; and
- residents of another country visiting in Canada temporarily.

NOTE: The Guide includes reasons why questions are asked and should provide the answers to any problems that may arise. If not, do not hesitate to call our Telephone Assistance Service. The numbers to dial are listed on the back cover and long-distance calls are free of charge.

A message to all Canadians...

On June 3, 1986, something happens in Canada that is very important for you and your future. It's Census Day, the day on which Canada takes a look at its population and its social and economic life. Without your co-operation, we cannot have a successful census.

The census is important for you in many ways. With census results, better plans can be made for your health care, for improved day care facilities, for such things as roads, businesses and schools. The census means better planning for pensions, youth employment and for the needs of the disabled. Census results also help determine just what provincial grants should go to your community and what federal grants should come to your province.

The information you give is kept secret. It is used only to produce statistics. The Statistics Act ensures that no one will know the answers you give except for sworn employees of Statistics Canada. No other individual and no other government department is permitted access to your census form. At the same time, as defined by the Statistics Act, you have a legal responsibility to fill out this questionnaire.

For a census to work, all of us must count ourselves in. On June 3, 1986, a census happens in Canada. Do your part, by filling in this questionnaire, as accurately as possible, as of June 3.

Thank you for your co-operation.

In 1981, census statistics told us that:

- The population of Canada was 24,343,180, an increase of 5.9% since 1976.
- Canada's population is aging. From 1971 to 1981, the proportion of people aged 65 years and over went from 8.1% to 9.7%.
- Since 1971, the number of divorced persons in Canada has almost tripled, going from 175,000 in 1971 to 500,000 in 1981. In 1971, they represented 1.2% of the adult population (15 years and over) compared to 2.7% ten years later.
- More and more Canadians are living alone. In 1981, there were close to 1.7 million people on their own. That was twice as many as in 1971.
- In 1980, the average family income in Canada was \$26,748 a year. That was an increase of about 28% from 1970, price changes considered.

How to Fill Out This Questionnaire

Please mark ☒ or print all your answers clearly with a dark pencil or pen.

Answer the questions on pages 2 through 5. Then, starting with page 6, fill three pages for each person in your household, using the same order as you used in Question 1. For example, information for Person 2 will be entered on pages 9, 10, 11; information for Person 3 on pages 12, 13, and 14, etc.

INSTRUCTIONS FOR QUESTION 1

WHOM TO INCLUDE

Include all persons who usually live here, even if they are temporarily away (such as on business, at school, or on vacation).

Also include any persons staying or visiting here who have no usual home elsewhere.

As a further guide, include

- a husband, wife or common-law partner who stays elsewhere while working but who returns to this home periodically;
- unmarried sons or daughters who are postsecondary students, unless they are financially independent and living elsewhere;
- unmarried persons who live here while working, even if they return to another home periodically;
- persons who usually live here but are now in an institution (such as a hospital or correctional centre), if they have been there less than six months;
- infants born on or before June 2, 1986;
- persons now deceased who were still alive at midnight between June 2 and 3, 1986.

Do not include

- unmarried sons or daughters who live elsewhere most of the time while working, even if they return to this home on weekends or holidays;
- persons who are now in an institution and have been there for the past six months or longer;
- foreign residents (see front cover).

ORDER OF LISTING OF HOUSEHOLD MEMBERS

To ensure that all persons in the same family group are listed together, the following order should be used when printing the names of all members of the household in Question 1:

(a) Person 1:

Choose one of the following as Person 1:

- either the husband or the wife of a married couple living here
- either partner in a common-law relationship
- the parent, where one parent only lives with his or her never-married son(s) or daughter(s) of any age.

If none of the above applies, choose any adult member of this household.

- (b) husband or wife (or common-law partner) of Person 1;
- (c) never-married children or stepchildren of Person 1;
- (d) other children of Person 1, and their families;
- (e) other relatives of Person 1 (whether related by blood, marriage, adoption or common-law), and their families;
- (f) persons not related to Person 1, and their families.

HOUSEHOLDS WITH MORE THAN SIX PERSONS

If there are more than six persons in this household, enter the first six on one questionnaire and continue with the seventh person on a second questionnaire, starting in the row marked "Person 2".

If you need additional questionnaires, see the instructions for Question 1 (second paragraph) in the Guide.

1. NAME

Using the instructions given on the left, **print below** the names of all persons usually living here as of Tuesday, June 3, 1986.

0139 ☐ A**Person 1**

Last name

Given name and initial

0239 ☐ A**Person 2**

Last name

Given name and initial

0339 ☐ A**Person 3**

Last name

Given name and initial

0439 ☐ A**Person 4**

Last name

Given name and initial

0539 ☐ A**Person 5**

Last name

Given name and initial

0639 ☐ A**Person 6**

Last name

Given name and initial

2. RELATIONSHIP TO PERSON 1

For each person in this household, mark ☒ **one box only** to describe his or her relationship to Person 1. If you mark the box "Other relative" or "Other non-relative", print in the relationship to Person 1.

Some examples of the "Other" relationships are:

grandmother

room-mate's daughter

common-law partner of

uncle

employee's husband

son or daughter

(See Guide)

01 ☒ Person 102 ☐ Husband or wife of Person 103 ☐ Common-law partner of Person 104 ☐ Son or daughter of Person 105 ☐ Father or mother of Person 106 ☐ Brother or sister of Person 107 ☐ Son-in-law or daughter-in-law of Person 108 ☐ Father-in-law or mother-in-law of Person 109 ☐ Brother-in-law or sister-in-law of Person 110 ☐ Grandchild of Person 111 ☐ Nephew or niece of Person 112 ☐ Other relative of Person 1 (print below)17 ☐ ☐12 ☐ Lodger13 ☐ Lodger's husband or wife14 ☐ Lodger's son or daughter15 ☐ Room-mate16 ☐ Employee17 ☐ Other non-relative (print below)04 ☐ Son or daughter of Person 105 ☐ Father or mother of Person 106 ☐ Brother or sister of Person 107 ☐ Son-in-law or daughter-in-law of Person 108 ☐ Father-in-law or mother-in-law of Person 109 ☐ Brother-in-law or sister-in-law of Person 110 ☐ Grandchild of Person 111 ☐ Nephew or niece of Person 112 ☐ Other relative of Person 1 (print below)17 ☐ ☐12 ☐ Lodger13 ☐ Lodger's husband or wife14 ☐ Lodger's son or daughter15 ☐ Room-mate16 ☐ Employee17 ☐ Other non-relative (print below)04 ☐ Son or daughter of Person 105 ☐ Father or mother of Person 106 ☐ Brother or sister of Person 107 ☐ Son-in-law or daughter-in-law of Person 108 ☐ Father-in-law or mother-in-law of Person 109 ☐ Brother-in-law or sister-in-law of Person 110 ☐ Grandchild of Person 111 ☐ Nephew or niece of Person 112 ☐ Other relative of Person 1 (print below)17 ☐ ☐12 ☐ Lodger13 ☐ Lodger's husband or wife14 ☐ Lodger's son or daughter15 ☐ Room-mate16 ☐ Employee17 ☐ Other non-relative (print below)04 ☐ Son or daughter of Person 105 ☐ Father or mother of Person 106 ☐ Brother or sister of Person 107 ☐ Son-in-law or daughter-in-law of Person 108 ☐ Father-in-law or mother-in-law of Person 109 ☐ Brother-in-law or sister-in-law of Person 110 ☐ Grandchild of Person 111 ☐ Nephew or niece of Person 112 ☐ Other relative of Person 1 (print below)17 ☐ ☐12 ☐ Lodger13 ☐ Lodger's husband or wife14 ☐ Lodger's son or daughter15 ☐ Room-mate16 ☐ Employee17 ☐ Other non-relative (print below)04 ☐ Son or daughter of Person 105 ☐ Father or mother of Person 106 ☐ Brother or sister of Person 107 ☐ Son-in-law or daughter-in-law of Person 108 ☐ Father-in-law or mother-in-law of Person 109 ☐ Brother-in-law or sister-in-law of Person 110 ☐ Grandchild of Person 111 ☐ Nephew or niece of Person 112 ☐ Other relative of Person 1 (print below)17 ☐ ☐12 ☐ Lodger13 ☐ Lodger's husband or wife14 ☐ Lodger's son or daughter15 ☐ Room-mate16 ☐ Employee17 ☐ Other non-relative (print below)

3. DATE OF BIRTH Print day, month and year. Example: If you were born on the 10th of February, 1945, you would enter 10 02 1945 If exact date is not known, enter best estimate.	4. SEX 20 <input type="checkbox"/> Male 21 <input type="checkbox"/> Female	5. MARITAL STATUS What is your marital status? (See Guide) Mark one box only	6. What is the language you first learned in childhood and still understand? (See Guide)	7. Do you consider yourself an aboriginal person or a native Indian of North America, that is, Inuit, North American Indian or Métis? (See Guide)
Day <input type="text"/> 18 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Month Year 19 <input type="checkbox"/> D	20 <input type="checkbox"/> Male 21 <input type="checkbox"/> Female	22 <input type="checkbox"/> Now married (excluding separated) 23 <input type="checkbox"/> Separated 24 <input type="checkbox"/> Divorced 25 <input type="checkbox"/> Widowed 26 <input type="checkbox"/> Never married (single)	27 <input type="checkbox"/> English 28 <input type="checkbox"/> French 29 <input type="checkbox"/> Italian 30 <input type="checkbox"/> German 31 <input type="checkbox"/> Ukrainian 32 <input type="text"/> <input type="text"/> Other (specify)	33 <input type="checkbox"/> No. I do not consider myself Inuit, North American Indian or Métis 34 <input type="checkbox"/> Yes, Inuit 35 <input type="checkbox"/> Yes, status or registered Indian 36 <input type="checkbox"/> Yes, non-status Indian 37 <input type="checkbox"/> Yes, Métis
Day <input type="text"/> 18 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Month Year 19 <input type="checkbox"/> D	20 <input type="checkbox"/> Male 21 <input type="checkbox"/> Female	22 <input type="checkbox"/> Now married (excluding separated) 23 <input type="checkbox"/> Separated 24 <input type="checkbox"/> Divorced 25 <input type="checkbox"/> Widowed 26 <input type="checkbox"/> Never married (single)	27 <input type="checkbox"/> English 28 <input type="checkbox"/> French 29 <input type="checkbox"/> Italian 30 <input type="checkbox"/> German 31 <input type="checkbox"/> Ukrainian 32 <input type="text"/> <input type="text"/> Other (specify)	33 <input type="checkbox"/> No. I do not consider myself Inuit, North American Indian or Métis 34 <input type="checkbox"/> Yes, Inuit 35 <input type="checkbox"/> Yes, status or registered Indian 36 <input type="checkbox"/> Yes, non-status Indian 37 <input type="checkbox"/> Yes, Métis
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Day <input type="text"/> 18 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Month Year 19 <input type="checkbox"/> D	20 <input type="checkbox"/> Male 21 <input type="checkbox"/> Female	22 <input type="checkbox"/> Now married (excluding separated) 23 <input type="checkbox"/> Separated 24 <input type="checkbox"/> Divorced 25 <input type="checkbox"/> Widowed 26 <input type="checkbox"/> Never married (single)	27 <input type="checkbox"/> English 28 <input type="checkbox"/> French 29 <input type="checkbox"/> Italian 30 <input type="checkbox"/> German 31 <input type="checkbox"/> Ukrainian 32 <input type="text"/> <input type="text"/> Other (specify)	33 <input type="checkbox"/> No. I do not consider myself Inuit, North American Indian or Métis 34 <input type="checkbox"/> Yes, Inuit 35 <input type="checkbox"/> Yes, status or registered Indian 36 <input type="checkbox"/> Yes, non-status Indian 37 <input type="checkbox"/> Yes, Métis
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A **dwelling** is a separate set of living quarters with a **private entrance** from the outside or from a common hallway or stairway inside the building. This entrance should not be through someone else's living quarters.

8. (a) Print the name of the person (or one of the persons) who lives here and is responsible for paying the rent, or mortgage, or taxes, electricity, etc., for this dwelling

07

01

Last name

Given name and initial

This person shall answer Questions 8 (b) to 13.

NOTE: If no one living here makes any such payments, mark here ☐ and answer Questions 8 (b) to 13 yourself.

- (b) How many persons usually live here (according to the WHOM TO INCLUDE item in the INSTRUCTIONS FOR QUESTION 1)?

02

Number of persons

- (c) Did you leave anyone out of Question 1 because you were not sure whether he or she should be listed? For example, a student, a lodger who also has another home, a new baby still in hospital, live-in help, or a member of this household who has become a patient in a hospital or nursing home within the past six months.

☐ Yes☐ No

If "Yes", print the name of each person left out and the reason.

Name

Reason

Name

Reason

If you require more space, please use the Comments section on the last page of this questionnaire.

- (d) How many persons who have a usual home elsewhere in Canada are staying or visiting here temporarily (as of Census Day, June 3)?

☐ None

OR

Number of persons

9. Do you (or does any other member of this household):

Mark one box only

03 ☐ own this dwelling (even if it is still being paid for)?04 ☐ rent this dwelling (even if no cash rent is paid)?

CONTINUE WITH QUESTION 10

OFFICE USE ONLY

05 ☐ Trans.06 ☐ Coll.07 ☐ IR08 ☐ ER09 ☐ Ref.10 ☐ Miss11 ☐ JIC - A12 ☐ JIC - B

10. To the best of your knowledge, when was this dwelling or the building containing this dwelling originally built? (Mark the period in which the building was completed, not the time of any later remodeling, additions or conversions.)

08

Mark one box only

- 01 ☐ 1920 or before
 02 ☐ 1921 - 1945
 03 ☐ 1946 - 1960
 04 ☐ 1961 - 1970
 05 ☐ 1971 - 1975
 06 ☐ 1976 - 1980
 07 ☐ 1981 - 1985
 08 ☐ 1986

11. How many rooms are there in this dwelling? (Include kitchen, bedrooms, finished rooms in attic or basement, etc. Do not count bathrooms, halls, vestibules and rooms used solely for business purposes.)

09 Number of rooms

12. (a) What is the main type of heating equipment for this dwelling?

Mark one box only

- 10 ☐ Steam or hot water furnace or boiler
 11 ☐ Forced hot air furnace with heat pump
 12 ☐ Forced hot air furnace without heat pump and using one type of fuel/energy only (e.g., natural gas, oil, or electricity)
 13 ☐ Forced hot air furnace without heat pump and using more than one type of fuel/energy for heating (e.g., oil and wood, or oil and electricity)
 14 ☐ Installed electric heating system, e.g., built-in baseboard
 15 ☐ Other electric heating system (plug-in)
 16 ☐ Heating stove, cooking stove, space heater
 17 ☐ Other, e.g., fireplace

- (b) Which fuel or energy is used most for heating this dwelling?

Mark one box only

- 18 ☐ Piped gas, e.g., natural gas
 19 ☐ Bottled gas, e.g., propane
 20 ☐ Electricity only
 21 ☐ Electricity as the main source where more than one fuel/energy is used, e.g., electricity and oil
 22 ☐ Oil or kerosene
 23 ☐ Wood
 24 ☐ Coal or coke
 25 ☐ Other fuel or energy

Answer Question 13 for only the dwelling that you now occupy, even if you own or rent more than one dwelling. If exact amount is not known, please enter your best estimate.

NOTE: If you are a farm operator living on the farm you operate, mark here

26 ☐ and go to the questions concerning Person 1 on page 6.

13. For this dwelling, what are the yearly payments (last 12 months) for:

- (a) electricity?

27 ☐ None, or included in rent or other payments.

OR

Dollars Cents

28 00 per year

- (b) oil, gas, coal, wood or other fuels?

29 ☐ None, or included in rent or other payments.

OR

Dollars Cents

30 00 per year

- (c) water and other municipal services?

31 ☐ None, or included in rent, municipal taxes or other payments.

OR

Dollars Cents

32 00 per year

RENTERS, answer part (d); OWNERS, go to part (e).

- (d) What is the monthly cash rent you pay for this dwelling?

33 ☐ Rented without payment of cash rent

OR

Dollars Cents

34 00 per month

Go to the questions concerning Person 1 on page 6

OWNERS, answer parts (e) through (i).

- (e) What are your total regular monthly mortgage (or debt) payments for this dwelling?

35 ☐ None ► Go to part (g)

OR

Dollars Cents

36 00 per month

- (f) Are your property taxes (municipal and school) included in the amount shown in part (e)?

37 ☐ Yes ► Go to part (h)

38 ☐ No

- (g) What are your estimated yearly property taxes (municipal and school) for this dwelling?

39 ☐ None

OR

Dollars Cents

40 00 per year

- (h) If you were to sell this dwelling now, for how much would you expect to sell it?

Dollars Cents

41 00

- (i) Is this dwelling part of a registered condominium?

42 ☐ Yes

43 ☐ No

NAME OF PERSON 1

Last name _____ Given name and initial _____

14. Where were you born? (Mark or specify one only, according to present boundaries.)

IN CANADA

09 ☐ Nfld.
☐ P.E.I.
☐ N.S.
☐ N.B.
☐ Que.
☐ Ont.
☐ Man.
☐ Sask.
☐ Alta.
☐ B.C.
☐ Yukon
☐ N.W.T.

OUTSIDE CANADA

13 ☐ United Kingdom
☐ Italy
☐ U.S.A.
☐ West Germany
☐ East Germany
☐ Poland

Other (specify) _____

19 ☐ _____

15. Of what country are you a citizen?
 • Mark more than one box, if applicable

20 ☐ Canada, by birth
 21 ☐ Canada, by naturalization
 22 ☐ Same as country of birth (other than Canada)
 23 ☐ Other

If you are a citizen of Canada by birth, go to Question 17.

16. In what year did you first immigrate to Canada?

24 ☐ _____ If exact year is not known, please enter best estimate.
 Year

17. To which ethnic or cultural group(s) do you or did your ancestors belong? (See Guide)

Mark or specify as many as applicable

25 ☐ French
 26 ☐ English
 27 ☐ Irish
 28 ☐ Scottish
 29 ☐ German
 30 ☐ Italian
 31 ☐ Ukrainian
 32 ☐ Dutch (Netherlands)
 33 ☐ Chinese
 34 ☐ Jewish
 35 ☐ Polish
 36 ☐ Black
 37 ☐ Inuit
 38 ☐ North American Indian
 39 ☐ Métis

Other ethnic or cultural group(s). For example, Portuguese, Greek, Indian (India), Pakistani, Filipino, Japanese, Vietnamese. (specify below)

40 ☐ _____ Other (specify) _____

41 ☐ _____ Other (specify) _____

42 ☐ _____ Other (specify) _____

18. What language do you yourself speak at home now?
 • (If more than one language, which language do you speak most often?) (See Guide)

43 ☐ English
 44 ☐ French
 45 ☐ Italian
 46 ☐ Chinese
 47 ☐ German

48 ☐ _____ Other (specify) _____

19. Can you speak English or French well enough to conduct a conversation? (See Guide)

Mark one box only

49 ☐ English only
 50 ☐ French only
 51 ☐ Both English and French
 52 ☐ Neither English nor French

20. (a) Are you limited in the kind or amount of activity that you can do because of a long-term physical condition, mental condition or health problem? (See Guide)

At home?

53 ☐ No, I am not limited
 54 ☐ Yes, I am limited

At school or at work?

55 ☐ No, I am not limited
 56 ☐ Yes, I am limited
 57 ☐ Not applicable

In other activities, e.g., transportation to or from work, leisure time activities?

58 ☐ No, I am not limited
 59 ☐ Yes, I am limited

(b) Do you have any long-term disabilities or handicaps?

60 ☐ No
 61 ☐ Yes

If you were born on or after June 3, 1971, mark here ☐ and do not answer Questions 21 to 32... **END HERE FOR THIS PERSON**

If you were born before June 3, 1971, mark here ☐ and continue with Questions 21 to 32

21. (a) What is the highest grade (or year) of secondary (high) or elementary school you ever attended? (See Guide)

62 ☐ Enter highest grade or year (1 to 13) of secondary or elementary school

OR

63 ☐ Never attended school or attended kindergarten only

(b) How many years of education have you ever completed at university?

64 ☐ None
 65 ☐ Less than 1 year (of completed courses)
 66 ☐ Enter number of completed years at university

QUESTIONS FOR PERSON 1 — CONTINUED

21. (c) How many years of schooling have you ever completed at an institution other than a university, secondary (high) or elementary school? Include years of schooling at community colleges, institutes of technology, CEGEPs (general and professional), private trade schools or private business colleges, diploma schools of nursing, etc. (See Guide)

10

- 01 ☐ None
 02 ☐ Less than 1 year (of completed courses)
 03 ☐ Enter number of completed years

22. What degrees, certificates or diplomas have you ever obtained? (See Guide)

Mark as many boxes as applicable

- 04 ☐ None
 05 ☐ Secondary (high) school graduation certificate
 06 ☐ Trades certificate or diploma
 07 ☐ Other non-university certificate or diploma (obtained at community college, CEGEP, institute of technology, etc.)
 08 ☐ University certificate or diploma below bachelor level
 09 ☐ Bachelor's degree(s) (e.g., B.A., B.Sc., B.A.Sc., LL.B.)
 10 ☐ University certificate or diploma above bachelor level
 11 ☐ Master's degree(s) (e.g., M.A., M.Sc., M.Ed.)
 12 ☐ Degree in medicine, dentistry, veterinary medicine or optometry (M.D., D.D.S., D.M.D., D.V.M., O.D.)
 13 ☐ Earned doctorate (e.g., Ph.D., D.Sc., D.Ed.)

23. What was the major field of study of your highest degree, certificate or diploma (excluding secondary or high school graduation certificates)? (See Guide)

(For example, accounting, civil engineering, history, legal secretary, welding.)

If you have no degree, certificate or diploma or have a secondary (high) school graduation certificate only, mark below.

- 14 ☐ Go to Question 24

24. Where did you live 5 years ago, that is, on June 1, 1981?

Mark one box only

NOTE: If your place of residence 5 years ago was a municipality within a large urban area, be careful not to confuse suburban municipalities with the largest city. For example, distinguish between Montréal-Nord and Montréal, Scarborough and Toronto, West Vancouver and Vancouver.

- 16 ☐ This dwelling
 17 ☐ Different dwelling in this city, town, village, township, municipality or Indian reserve
 18 ☐ Outside Canada
 19 ☐ Different city, town, village, township, other municipality or Indian reserve in Canada (specify below)

Go to Question 25

City, town, village, township, other municipality or Indian reserve

County Province or territory

20

25. (a) Last week, how many hours did you work (not including housework, maintenance or repairs for your own home)? Include as work:

- working without pay in a family farm or business (e.g., assisting in seeding, doing accounts);
- working in your own business, farm or professional practice, alone or in partnership;
- working for wages, salary, tips or commission.

- 21 Number of hours (to the nearest hour) ▶ Go to Question 27

OR

- 22 ☐ None ▶ Continue with Questions 25 (b) to 32

- (b) Last week, were you on temporary lay-off or absent from your job or business?

Mark one box only

- 23 ☐ No
 24 ☐ Yes, on temporary lay-off from a job to which I expect to return
 25 ☐ Yes, on vacation, ill, on strike or locked out, or absent for other reasons

- (c) Last week, did you have definite arrangements to start a new job within the next four weeks?

- 26 ☐ No
 27 ☐ Yes

- (d) Did you look for work during the past four weeks? For example, did you contact a Canada Employment Centre, check with employers, place or answer newspaper ads?

Mark one box only

- 28 ☐ No ▶ Go to Question 26
 29 ☐ Yes, looked for full-time work
 30 ☐ Yes, looked for part-time work (less than 30 hours per week)

- (e) Could you have started work last week had a job been available?

Mark one box only

- 31 ☐ Yes, could have started work
 32 ☐ No, already had a job
 33 ☐ No, temporary illness or disability
 34 ☐ No, personal or family responsibilities
 35 ☐ No, going to school
 36 ☐ No, other reasons

26. When did you last work, even for a few days (not including housework, maintenance or repairs for your own home)?

Mark one box only

- 37 ☐ In 1986 ▶ Answer Questions 27 to 32
 38 ☐ In 1985
 39 ☐ Before 1985
 40 ☐ Never worked in lifetime ▶ Go to Question 32

27. **NOTE:** Questions 27 to 30 refer to your job or business last week. If you held no job last week, answer for your job of longest duration since January 1, 1985. If you held more than one job last week, answer for the job at which you worked the most hours.

- (a) For whom did you work?

Name of firm, government agency, etc.

Department, branch, division, section or plant

- (b) What kind of business, industry or service was this?

Give full description. For example, wheat farm, trapping, road maintenance, retail shoe store, secondary school, temporary help agency, municipal police.

41

QUESTIONS FOR PERSON 1 — CONCLUDED

28. At what address did you work? If no usual place of work, see Guide.

Mark one box only

- 11 ☐ (i) Worked at home (includes living and working on the same farm)
☐ (ii) Worked outside Canada
☐ (iii) Worked at the address below (please specify)

If street address is not known, give the building name, shopping centre or street intersection, etc.

Number

Street

If you worked in a suburban municipality within a large urban area, specify that municipality, not the main city.

City, town, village, township, other municipality or Indian reserve

County

Province or territory

29. (a) What kind of work were you doing?

For example, accounting clerk, door-to-door salesperson, civil engineer, secondary school teacher, chief electrician, food processing labourer, fishing guide. (If in the Armed Forces, give rank.)

(b) In this work, what were your most important activities or duties?

For example, verifying invoices, selling cosmetics, managing the research department, teaching mathematics, supervising construction electricians, cleaning vegetables, guiding fishing parties.

07

30. (a) In this job were you mainly:

- 08 ☐ working for wages, salary, tips or commission?
 09 ☐ working without pay for your spouse or another relative in a family farm or business?
 10 ☐ self-employed without paid help (alone or in partnership)?
 11 ☐ self-employed with paid help (alone or in partnership)?

Go to
Question 31Continue
with Question
30 (b)

(b) If self-employed, was your farm or business incorporated?

- 12 ☐ No
 13 ☐ Yes

31. (a) In how many weeks did you work during 1985 (not including housework, maintenance or repairs for your own home)?

Include those weeks in which you:

- were on vacation or sick leave with pay;
 ■ were self-employed or an unpaid worker in a family farm or business;
 ■ worked full time or part time.

14 ☐ None ▶ Go to Question 32

OR

15 ☐ Number of weeks

(b) During most of those weeks, did you work full time or part time?

Mark one box only

- 16 ☐ Full time
 17 ☐ Part time

18 ☐ In.

OFFICE USE ONLY

32. During the year ending December 31, 1985, did you receive any income or suffer any loss from the sources listed below?

- If yes, please mark the "Yes" box and enter the amount, in case of a loss, also mark the "Loss" box.
 ■ If no, please mark the "No" box and proceed to the next source.
 ■ Do not include family allowances and child tax credits.
 ■ Please consult the Guide for details.

AMOUNT

Dollars Cents

(a) Total wages and salaries including commissions, bonuses, tips, etc., before any deductions

19 ☐ Yes ▶
 20 ☐ No

(b) Net non-farm self-employment income (gross receipts minus expenses) from unincorporated business, professional practice, etc., on own account or in partnership

21 ☐ Yes ▶
 22 ☐ Loss

(c) Net farm self-employment income (gross receipts minus expenses) from agricultural operations on own account or in partnership

23 ☐ Yes ▶
 24 ☐ No 25 ☐ Loss

(d) Old age security pension and guaranteed income supplement from federal government only (provincial income supplements should be reported in (g))

27 ☐ Yes ▶
 28 ☐ No

(e) Benefits from Canada or Quebec Pension Plan

29 ☐ Yes ▶
 30 ☐ No

(f) Benefits from Unemployment Insurance (total benefits before tax deductions)

31 ☐ Yes ▶
 32 ☐ No

(g) Other income from government sources including provincial income supplements and grants and social assistance, e.g., veterans' pensions, workers' compensation, welfare payments (do not include family allowances and child tax credits) (See Guide)

33 ☐ Yes ▶
 34 ☐ No

(h) Dividends and interest on bonds, deposits and savings certificates, and other investment income, e.g., net rents from real estate, interest from mortgages

35 ☐ Yes ▶
 36 ☐ No 36 ☐ Loss

(i) Retirement pensions, superannuation and annuities

38 ☐ Yes ▶
 39 ☐ No

(j) Other money income, e.g., alimony, scholarships

40 ☐ Yes ▶
 41 ☐ No

(k) Total income from all of the above sources

42 ☐ Yes ▶
 43 ☐ No 43 ☐ LossEND OF QUESTIONS FOR PERSON 1
PERSON 2 — CONTINUE

TELEPHONE ASSISTANCE SERVICE

If after reading the **Guide** you need further assistance, do not hesitate to call our Telephone Assistance Service. It is available from 9 a.m. to 9 p.m. from Thursday, May 29 through Friday, June 6 (excluding Sunday).

If you live within the local calling area of one of the places listed below, dial the number shown. In all other areas call the long-distance operator and ask for ZENITH 0-1986 (no charge).

For **TTD/TTY** (Telecommunication Devices for the Deaf/Teletype Machines only) — users call: 1-800-267-5301 (no charge).

ST. JOHN'S (NFLD.)	772-2454
HALIFAX	426-1986
MONCTON	857-7986
MONTREAL	283-1986
OTTAWA	990-1495
TORONTO	973-1986
WINNIPEG	944-1986
EDMONTON	420-2150
VANCOUVER	666-6655

COMMENTS

1986 Census Guide for Respondents Completing Their Census Form

Count Yourself In On Census Day, Tuesday, June 3, 1986.

This Guide will help you fill out your questionnaire. It should provide the answers to any problems that may arise. If not, do not hesitate to call our Telephone Assistance Service. The numbers to dial are listed on the last page of your questionnaire and long-distance calls are free of charge. This Guide will also answer some questions you may have about the census.

Why take a census?

A census is an inventory of a nation's people and their living condition. It is the only source of information from which Canadians can draw a complete and reliable picture of their community and their country. This picture taken on June 3, 1986 is produced by combining answers to various census questions as well as by comparing the change in various characteristics of the population between censuses. While it is true that some information could be obtained through other means, only the census provides Canadians with enough information to relate age, sex and education to employment or income, for example. As such the census provides a vast and invaluable store of knowledge about each Canadian community. This knowledge is useful to all levels of government, business and associations which represent a diversity of interests.

Census data can be useful for your personal needs as well. With the information the census provides, you can plan a business, or evaluate the needs of your community for day care, school, recreational and other facilities.

How are the questions made up?

Statistics Canada listens to the needs and concerns of Canadians before deciding which questions should be asked. Before the content of the 1986 questionnaire was decided, talks were held with many different groups across the country. These talks have resulted in questions on aboriginal peoples, the handicapped and the work force, to note just a few.

This Guide provides some of the reasons why each question is asked.

Yes, but I feel this is an invasion of my privacy...

You may feel uncomfortable about answering a question. You may think, "This is no one's business but my own". But, here's what happens. The information you provide is processed in such a way that your personal characteristics are protected in the statistical data base.

Well then, why do I have to give my name?

Your name is required so that census workers can contact you in case basic information is missing on your questionnaire.

How do I know you'll keep it all a secret?

Statistics Canada has upheld its guarantee of confidentiality ever since it began taking the census. Its record is unblemished. Your answers are kept in the strictest confidence and are used only to compile statistics.

Although you are required, by law, to provide the information requested in the census questionnaire, you are also protected by that law.

Our message to you...

The 1986 Census will give you the chance to work for a better Canada. Please count yourself in. It's your right.

Thank you for your co-operation.

Question 1

Refer to the instructions for Question 1 on the questionnaire when considering whom to (or not to) include as members of your household. If you have doubts as to whether a person should be listed, enter the person's name and the reason for your uncertainty in the space provided in Question 8(c).

If there are more than six persons in your household and you do not have a second questionnaire, note this in the "Comments" section of your questionnaire, complete the questionnaire for six persons in your household and return as instructed. A Census Representative will contact you later.

Names are required to contact the household for missing information.

Question 2

To enable us to identify family groups within the household, it is necessary to select a reference person (Person 1), and to state the relationship of each household member to that person. For example, if John Smith lives with his father Thomas Smith, and Thomas Smith has been entered as Person 1, John Smith would mark "Son or daughter of Person 1".

There may be a member or members of your household whose relationship to Person 1 is not described in Question 2. In such cases, mark either "Other relative of Person 1" or "Other non-relative", and also print the exact relationship to Person 1 in the space provided.

"Other relative" includes persons such as uncles, aunts, cousins, grandfathers, grandmothers, and so on. "Other non-relative" refers to household members who are not related to Person 1 by blood, marriage, adoption or common-law. Some examples are employee's wife, employee's daughter, room-mate's son, landlord, and so on.

The term "common-law", as used in "Common-law partner of Person 1" or as may be used to describe any other such partnership in the household (for example, "Lodger's common-law partner") applies to any case of a couple living together in this type of union.

Note that stepchildren, adopted children, and children of a common-law partner should be considered as sons and daughters. Foster children, wards and guardianship children who are not related to Person 1 by blood, marriage, adoption or common-law should be listed as lodgers.

This question is needed to identify family and non-family groups and persons living alone. Information on the numbers and characteristics of these groups is essential for planning of social programs such as old age security and family allowance. These data are also used in identifying future needs for housing and community services from health and education to recreation and transportation.

Question 3

Information on age is essential in projecting future population trends and in better understanding social and economic changes. It is a key element in planning for a community's needs such as day care facilities, schools and senior citizens' housing.

Question 4

This question is vital in studying population trends. Data classified by sex are needed to understand the changing social and economic roles of men and women.

Question 5

Mark "Now married" if you have a husband or wife who is now living, even if you are temporarily living apart because one of you is employed away from home, hospitalized, etc., but not if you are actually separated or have obtained a divorce.

Mark "Separated", if you are separated from your husband or wife due to causes such as desertion or marriage breakdown, or because you no longer want to live together, provided that no divorce has been obtained.

Mark "Divorced" if you have obtained a divorce and have not remarried.

Persons in a common-law type of relationship should mark one of the boxes "separated", "divorced", "widowed" or "never married" according to the guidelines provided above.

Marital patterns of the population can affect family laws and social programs geared to such groups as single-parent families, the elderly living alone, etc.

Question 6

You should report the first language you learned in childhood, that is, before you went to school. If you no longer understand that language, report the second language you learned. If you are answering for someone else, report the first language that he/she learned in childhood.

If you understand more than one language, report the one you learned first. If you learned two languages at the same time, report the language you **yourself** spoke **most often at home**. If you used the two languages **equally often**, report both.

For a child who has not yet learned a language, report the language he/she will first be learning **at home**. If he/she is learning two languages at the same time, report the one in which he/she is spoken to **most often**. If the two languages are used **equally often**, report both.

Persons who speak an **Indian** language (from **India**) should not report Indian but rather Hindi, Urdu, Punjabi or some other language as applicable. Persons who speak an **Amerindian** language (North American Indian) should report Cree, Ojibway or some other Amerindian language as applicable.

Mother tongue data are used in programs which protect and promote rights and privileges established by the Canadian Charter of Rights and Freedoms and the Official Languages Act.

Question 7

It is essential that **everyone** answer this question regardless of whether or not he/she is an aboriginal person of North America. Whenever possible, the answer to this question should be provided by the person to whom the information refers.

Question 7 (concluded)

Anyone who feels he/she is an aboriginal person (for example, Inuit, Métis, treaty or non-treaty status Indian) should respond to the categories beginning with "Yes...", as appropriate. Aboriginal children, even if adopted by non-aboriginal families, should also have a "Yes..." response.

Any person who considers him/herself to be **East Indian** or **Asian Indian** or **Asiatic Indian**, or who feels he/she has ethnic roots on the subcontinent of India, should mark "No..." to this question. Any other person who considers him/herself **not** to be an aboriginal person of North America should also mark "No...".

The purpose of this question is to obtain counts of Canada's aboriginal population, its characteristics and its geographical distribution.

Question 8

Part (a): If more than one person is responsible for such payments, enter the name of the person who usually pays the largest amount.

Part (b): If your household has more than six persons you will require more than one questionnaire. Please see the guidelines for Question 1 (second paragraph) above. If you are using more than one questionnaire, please answer this question on the first questionnaire only.

Part (c): If you have difficulty determining if a person should be included on your questionnaire, please refer to the **WHOM TO INCLUDE** item in the column adjacent to Question 1 on the questionnaire and to the guidelines for Question 1 above.

Part (d): Every Canadian or landed immigrant should be enumerated as either a permanent or temporary resident of the dwelling he/she occupied overnight between June 2/3, 1986. Visitors, students or married workers with another usual home are examples of temporary residents.

Mark either "None" or enter the number of temporary residents.

Part (a) is used to determine the person who can best answer the dwelling questions. Parts (b), (c) and (d) help to ensure that no one is left out who should be counted.

Question 9

Mark "Owned" if the dwelling you occupy is owned or being bought by you and/or a member of this household even if (a) it is situated on rented or leased land or (b) it is part of a condominium (whether registered or unregistered). For census purposes, a **condominium** is a multi-unit residential complex in which dwellings are owned individually while land is held in joint ownership with others.

Mark "Rented" in all other cases, even if the dwelling you occupy is (a) provided without cash rent or at a reduced rent, such as a clergyman's residence, a superintendent's dwelling in an apartment building, etc., or is (b) part of a co-operative. For census purposes, a **co-operative** is jointly owned by all members who occupy their dwelling units under a lease agreement.

This information is important both in assessing housing markets and in the development of housing programs.

Question 10

Information on the period of construction of Canada's housing supply is used in renovation and energy conservation programs.

Question 11

Do not enter "half-rooms"; for example, instead of 1 ½ enter either 1 or 2, depending on which best describes your dwelling.

Include as **separate rooms** partially divided rooms which you consider to be separate because of fixed or movable partition(s) or because of their use (e.g., "L-shaped" living-dining rooms).

Statistics comparing the number of rooms to the number of people living in various types of dwellings provide important information on living conditions throughout Canada.

Question 12

Part (a): A **heat pump** is a device which, in winter, extracts heat from exterior sources such as air or water and transmits it to an interior distribution system (usually a furnace) which circulates that heat through the dwelling. In summer, the heat pump extracts heat from within the dwelling and transmits it to the exterior, thus cooling the dwelling. (A heat pump should not be confused with an electrically driven fan or blower which is found on forced hot air furnaces.)

If a heat pump or a combination (dual-fuel) furnace is part of a steam or hot water heating system, mark "Steam or hot water furnace or boiler".

Part (b): Mark "Electricity only" if your dwelling is heated exclusively by electricity. If the electricity is the main but not the only source of heat, mark "Electricity as the main source...".

Note: If you use both commercial fuels/energy (e.g., oil, natural gas or electricity) and energy retrieved from the environment, for example, by heat pumps or solar panels, mark the category which identifies the **commercial fuel** used.

Information about household heating equipment and fuel is useful in planning energy conservation and housing programs.

Instruction prior to Question 13

In Question 13, parts (a), (b) and (c), if your payments include both **business and residential** expenses, enter your estimate for the residential portion only.

Question 13

Parts (a), (b) and (c): If you have occupied this dwelling for **less than a year**, estimate and report the **yearly** amount based on your payments up to this date or on other available information.

Condominium owners - If electricity or other service charges are included in the condominium fee, mark "None".

Part (b): If uncertain of the total annual cost of fuel, multiply the amount consumed (e.g., litres of oil, containers of propane gas, cords of wood, tons of coal) by the per unit price.

Part (d): Include **parking fees** paid with the rent, if any.

Question 13 (concluded)

Part (e): Mortgage payments are sometimes made in other than monthly instalments (e.g., once a year, twice a year or every three months). In this case, to obtain the average monthly amount paid, add all payments made in the last 12 months and divide the total by 12.

Part (f): If your regular monthly mortgage payments, shown in part (e), include municipal property taxes, but exclude school taxes:

- (i) check "No" in part (f); and
- (ii) enter in part (g) the amount of annual school taxes paid by you directly to school tax collectors.

Part (g): Include local improvement taxes with the property taxes, even if billed separately.

Part (h): For single dwellings, state the value of the entire property, including the value of the land it is on and of any other structure, such as a garage, which is on the property. If your dwelling is located in a building which contains several dwellings, or a combination of residential and business premises, all of which you or other members of your household own, estimate and report a portion of the market value that applies only to the dwelling in which you reside. Alternatively, you may estimate the value of your dwelling by multiplying by 100 the amount of rent per month which you could obtain for that one dwelling.

This question provides information on housing costs which can be combined with information from other census questions to evaluate the economic situation of Canadians.

Question 14

Persons born in parts of Canada which were part of the Northwest Territories at the time of their birth, but which have since become provinces of Canada, should report their place of birth according to present provincial boundaries. Persons born in the province of Newfoundland and Labrador before that province joined Confederation should mark "Nfld.". Persons born in the six counties of Northern Ireland should mark "United Kingdom". Persons born in any of the other counties of Ireland should print "Eire" in the space provided.

If you are not sure of the country of your birth because of boundary changes, print the name of the nearest city or district in the space provided.

This information, when combined with information from other census questions, can be used to review employment and immigration policies and programs, and to plan education, health and other services.

Question 15

Mark "Canada, by birth", if you were:

- (a) born in Canada
 - (except for persons of parents, one of whom was, at the time of their birth:
 - (i) in the service of a foreign government, or
 - (ii) an employee of a person in (i), or
 - (iii) in the service of an international organization to whom there is granted diplomatic privileges,

AND neither parent was a Canadian citizen or permanent resident (landed immigrant));

Question 15 (concluded)

- (b) born outside Canada of one or both Canadian parents, on or after February 15, 1977;
- (c) born outside Canada before February 15, 1977 of both Canadian parents, if you did not lose your Canadian citizenship;
- (d) born outside Canada of one Canadian parent, if your birth was registered as Canadian with Canadian authorities, and if you did not lose this citizenship.

Persons providing a response of "Canada, by birth" will not have gone through the immigration process, and thus should not have a response to the year of immigration question.

Persons who are Canadian citizens by naturalization would normally have received citizenship certificates from Canadian citizenship authorities.

If you have dual citizenship, mark the applicable boxes, e.g., Canada by birth or Canada by naturalization **and** country of birth (other than Canada).

If you were born outside Canada and are not a Canadian citizen, mark "Same as country of birth (other than Canada)", if you still retain this citizenship; otherwise mark "Other".

If you have lost your former citizenship and have not yet become a Canadian citizen, or if you have no citizenship for any other reason, mark "Other".

This question serves several purposes. It identifies populations who may need special minority language education programs. It also supports electoral planning at all levels of government when combined with age information. Knowledge of the extent of non-citizenship when combined with language information helps those responsible for conducting citizenship preparation programs and court facilities.

Question 16

Information on period of immigration is important for studies of immigration trends.

Question 17

Ethnic or cultural group refers to the "roots" or ancestral origin of the population and should not be confused with citizenship or nationality. Canadians belong to many ethnic and cultural groups, such as Inuit, North American Indian, Métis, Irish, Scottish, Ukrainian, Chinese, Japanese, East Indian (from the subcontinent of India), Dutch, English, French, etc.

Note that in cases where you use language as a guide to your ethnic group, you should report the specific ethnic group to which you belong, e.g., Haitian rather than French; Austrian rather than German.

The ethnic origin question will provide information which is used extensively by the many ethnic or cultural associations in Canada to study the size, location, characteristics and other aspects of their respective groups.

Question 18

You should report the language you **yourself** speak **most often at home**. If you are answering for someone else, report the language that **he/she** speaks **most often**.

If you speak two languages **equally often**, report both.

Question 18 (concluded)

For a child who has not yet learned a language, report the language spoken most often at home. If two languages are used **equally often**, report both.

If you are mute, report the language you use most often at home to make yourself understood.

If you live alone, report the language in which you feel most comfortable.

Persons who speak an **Indian** language (from **India**) should not report Indian but rather Hindi, Urdu, Punjabi or some other language as applicable. Persons who speak an **Amerindian** language (North American Indian) should report Cree, Ojibway or some other Amerindian language as applicable.

Information on the languages Canadians speak at home, when used in combination with other language data, provides important insights on language retention.

Question 19

Do not report French or English learned at school unless you can conduct a conversation of some length on various topics in that language.

For a child who has not yet learned a language, report the language spoken most often at home if it is either English or French. If the two languages are used equally often, report "English and French". If neither language is used often, mark "Neither English nor French".

If you are mute, report English, French or both provided you are able to make yourself understood in one or both of these languages.

This question not only gives an estimate of the ability of Canadians to communicate in English and French, but also the number of people who speak neither English nor French. The information is used by business and governments to determine the potential demand for language education and translation services.

Question 20

This question asks you to indicate if you are limited, even to a minor degree, in your activities at home, at work, at school or in other places because of a long-term physical or mental condition or health problem.

A long-term physical condition, mental condition or health problem is one that has lasted or is expected to last six or more months. This period of time is measured from the time the condition or problem began.

Wherever possible, the answer to this question should be provided by the adult to whom the information refers. The answer for persons less than 15 years of age should be provided by a parent or guardian.

This question will provide new information on the numbers of mentally and physically disabled Canadians as well as those with chronic health problems that result in some limitation in activity. Responses will also assist Statistics Canada in designing surveys to provide the additional information needed in support of the disabled.

Question 21

Part (a): Indicate the highest grade or year attended according to the province where the education was obtained, and do not attempt to convert to the equivalent level of the province of present residence (if the two are different). Conversion is only required if the education was obtained outside of Canada. In this case an estimate of the equivalent level of schooling should be made according to the education system of the province in which you reside.

Note that the "Versification" year of the former classical colleges of Quebec should be considered as equal to Grade 11.

If you are studying to complete a regular school grade by private instruction, correspondence or part-time (day or evening) attendance at class, report the grade or year in which these courses would be included in the regular daytime program.

If you are attending a special education school, or an institution where the classes are ungraded, estimate the grade or year level as closely as possible to the equivalent level of the school system of the province.

If you are a student in secondary school taking classes at different levels, indicate the level of the majority of your classes.

Part (b): In calculating years, indicate the number of academic years successfully completed regardless of the actual length of time it may have taken. If you attended a university which used the semester system, consider two semesters with the normal course load as equivalent to one academic year. If you received university training by correspondence, or through part-time (day or evening) study, the accumulated credits should be converted to the equivalent number of years in the regular full-time university program.

If you received your university education in a classical college in Quebec, the following guide may be useful: "Belles-Lettres" and "Rhétorique" should not be considered university education (see Question 21(c)); however, "Philo I" and "Philo II" should be considered as "1 year" and "2 years" of university education respectively.

If you received teacher training in a faculty of education associated or affiliated with a university, you should indicate this training at the university level here; otherwise, indicate that training in Question 21(c).

Part (c): Include schooling in all institutions other than university, secondary or elementary schools, whether or not they require a secondary (high) school certificate for entrance, including non-university teachers' colleges, police schools, etc.

Do not include courses taken for leisure or recreation.

In calculating years, enter the number of academic years successfully completed, regardless of the actual length of time it may have taken.

If you received other non-university training by correspondence, or through part-time (day or evening) attendance, the accumulated credits should be converted to the equivalent numbers of years in the regular full-time program.

CEGEP (general) or pre-university courses and CEGEP (professional) or career-terminal technical-vocational courses are postsecondary programs in the province of Quebec. The latter are similar to community college programs in other provinces.

The "Belles-Lettres" and "Rhétorique" levels of classical college in Quebec should be considered as "1 year" and "2 years" of other non-university education respectively.

Information on the level of schooling is used to assess the need for continuing education, and employment potential throughout Canada.

Question 22

Secondary (high) school graduation certificate: Mark this box if you graduated from a high school where the certificate was classed as junior or senior matriculation, general or technical-commercial.

Trades certificate or diploma: Mark this box if you received a certificate or diploma obtained through apprenticeship (journeyman's) training and/or in-school training in trades-level vocational and pre-vocational courses at community colleges, institutes of technology and similar institutions where the minimum entrance requirement was less than secondary (high) school, junior or senior matriculation, or equivalent.

Other non-university certificate or diploma: Mark this box if you obtained a certificate or diploma (other than a trade certificate or diploma) granted by a community college (both transfer and semi-professional career programs), CEGEP (both general and professional), institute of technology, or any other non-degree-granting educational institution.

If you obtained a teaching certificate awarded by a Provincial Department of Education at an approved institution such as a normal school or a college of education, mark this box. However, if you obtained your teacher's qualification in a faculty of education associated with a university, mark bachelor's degree(s).

University certificate or diploma: If you have a diploma, certificate or licence, awarded by a professional association (e.g., in accounting, banking, insurance) on the basis of successful completion of courses conducted through or by a university, you should indicate these as either:

- (a) university certificate or diploma *below* bachelor level, if a bachelor degree is not a normal prerequisite; or
- (b) university certificate or diploma *above* bachelor level, if a bachelor degree is a normal prerequisite.

This question, in conjunction with Question 23, provides more specific information on the educational resources of our population. This information will determine whether these resources are sufficient to accommodate future requirements in the areas of technology, science, engineering and social services.

Question 23

Be as specific as possible in indicating a subfield of specialization within a broader discipline or area of training, especially in the case of graduate studies or other advanced training.

If you have earned more than one highest degree, certificate or diploma (e.g., two bachelor's degrees or two master's degrees), then indicate the major field of study for the one that was most recently conferred.

If you have specialized in more than one major field of study in your degree, certificate, or diploma, then indicate the one in which you experienced the greatest degree of specialization (e.g., the field in which you received the most number of courses or credits).

Knowledge of the qualifications of the labour force is critical to the planning of basic education and retraining programs in the face of changing technological and labour market needs.

Question 24

Give the information for your usual residence 5 years ago even if you were away temporarily on June 1, 1981.

Mark only one of the four boxes.

If you marked "Different city, town, village, township, other municipality or Indian reserve in Canada", be sure to enter the name of your locality of residence 5 years ago, and the county (or regional municipality, regional district, etc.) and province or territory in which it is located. If you lived in an area where the same name is used for both a city, town or village, and a parish, township or other municipality, indicate which is correct by specifying the type (e.g., St. Andrews **town** or St. Andrews **parish**; Granby **city** or Granby **municipality**, Kingston **city** or Kingston **township**).

The internal migration information obtained from this question is needed to prepare accurate estimates and projections of national and provincial populations. Population estimates are used as a basis for distributing funds between the federal government and the provinces. Population projections are required for planning by both government and business, for example, in determining future needs for housing, education and social services.

Question 25

Part (a): Enter total number of hours of work in the following situations:

- (i) **Working without pay for your spouse or another relative on a family farm or in a business**

This means working without regular money wages for a spouse or a relative who is a member of the same household, at tasks which contribute to the operation of a farm or business run by the relative (e.g., if you worked on book-keeping for a farm or business owned by your spouse).

- (ii) **Working in your own farm, business or professional practice (i.e. self-employed with or without paid help)**

You should take into account fishing, trapping or hunting for profit or for the maintenance of your community, with your own or rented equipment or with equipment in which you have a share.

The hours you worked should include all time spent on preparing, maintaining and administering the operation of a farm, business or professional practice. For example, farmers should include hours spent maintaining farm fences, buildings or machinery, as well as on cultivating, sowing or milking. Fishermen should include time spent preparing and maintaining boats, nets, etc. If the number of hours is not known, enter your best estimate.

- (iii) **Working for wages, salaries, tips or commission**

Note: Refer to Question 30 in this Guide for complete definitions of these three situations.

Part (b): Answer "Yes, on temporary lay-off" if you **expect to return** to the job from which you were laid off regardless of how long ago the lay-off occurred.

Answer "Yes, on vacation, ill, on strike or locked out, or absent for other reasons" if you had a job or business last week from which you were absent for the whole week, with or without pay, because of vacation, illness, a strike or lock-out at your place of work, or such other reasons as maternity leave, bad weather, fire, personal or family responsibilities, etc. For paid workers, absence on training courses should be reported only if you are receiving wages or salary from your employer.

Question 25 (concluded)

Part (e): Mark "No, personal or family responsibilities" if you could not have started work last week because of illness in your family, child care difficulties, jury duty, etc.

Mark "No, other reasons" only if you did not already have a job, were not temporarily ill, did not have personal or family responsibilities, or were not going to school, i.e. if you were no longer interested in working, on vacation, etc.

Geographically detailed employment and unemployment statistics, available only from the census, enable all levels of government to direct economic development efforts to those areas of the country most in need.

Question 26

While housework or other work around your own home and volunteer work are important activities, they should not be included because this question is designed to obtain information on work involved in the production of goods and services for the economy.

This question complements Question 25, and serves to provide information on the numbers and characteristics of other Canadians with recent employment experience.

Question 27

If you are self-employed, enter in part (a) of the question, the name of the business you operate. If your business does not have a name, enter your own name.

If your wages are paid by an agency which hires out your services, enter the name of the agency.

If you work as an employee in a private household, enter the name of the family for whom you work and write: "private household".

Give a complete description in part (b) of the question. See examples below:

Complete responses	Incomplete responses
(a) wheat farm	(a) agriculture
(b) motor vehicle parts manufacturing	(b) auto parts
(c) retail household furniture and appliance store	(c) furniture
(d) secondary school	(d) school
(e) aluminum rolling, casting and extruding	(e) aluminum
(f) municipal police department	(f) police

This question provides information on the number of workers in each industry. When compared with information from previous censuses, this information can help identify contracting and expanding industries, for example. The employer's name is essential for accurate coding of the industry.

Question 28

If you have marked "Worked at the address below", give as complete an address as possible. If the full address is not known, enter as much information as you can. If you worked in an area where the same name is used for both a city, town or village, and a parish, township or other municipality, indicate which is correct by including the type (e.g., St. Andrews **town** or St. Andrews **parish**; Granby **city** or Granby **municipality**; Kingston **city** or Kingston **township**).

Away temporarily

If a member of this household is away temporarily (e.g., on a work assignment, business trip, training course, or holidays), then give his or her usual place of work.

Worked at home

If you worked in your home, or if your place of work was in the same building as your place of residence, mark "Worked at home". For example, dressmakers, apartment building superintendents, storekeepers with a store attached to their home or persons with an office in their homes should mark "Worked at home".

No usual place of work

If you worked in a different location each day, or you travelled about during the day, see the examples below:

- If you went regularly to a headquarters, depot, garage, shop, etc., before actually starting work each day, then write in the address or name of the headquarters, depot, etc.
- If you worked at least part of the time at a fixed address, then write in the address, building name, etc., where you most often worked.
- If you went from your home to various work locations, then write in "No usual place" in the space provided for the street address.

Knowledge about concentrations of employment in particular areas can help in the planning of services such as parking, banking and shopping facilities. Local transportation planners may use this information to determine public transit needs.

Question 29

The description should be as precise as possible and you will probably need to use two, three or more words in each part of the question. The description should avoid using terms such as worker, employee, etc., in favour of specific descriptions of the kind of work.

Use specific descriptions in both parts (a) and (b) of the question. In part (b) be sure to indicate if your job involves supervision or management.

See examples below:

Complete responses	Incomplete responses
(a) maintaining electrical equipment (b) repair and maintenance of electric motors	(a) maintenance (b) repair work
(a) typing, general office work (b) typing and filing	(a) office work (b) clerical
(a) inspecting electronic equipment (b) supervising electronic equipment inspection	(a) inspecting (b) supervising

Question 29 (concluded)

Members of religious orders engaged in activities such as primary school teaching, nursing, etc. should report these rather than religious activity.

This information, combined with similar information from previous censuses, is essential for establishing future job market requirements and for preparing people for future jobs.

Question 30

Part (a): Mark "working for wages, salary, tips or commission" if, in the job reported, you were:

- working for wages and/or salaries;
- working for piece-rates;
- working for payment "in kind" (room, board or supplies) in non-family enterprises, e.g., as a member of a religious order;
- serving as a member of the Armed Forces;
- working on commission as a salesperson for only one company and did not maintain an office or staff;
- working an hour or more for pay in a job such as baby-sitting, cleaning, delivering circulars, etc.;
- working as a paid housekeeper or paid "nanny".

Mark "working without pay for your spouse or another relative in a family farm or business", if, in the job reported, you worked without regular money wages for a spouse or a relative who is a member of the same household, at tasks which contributed to the operation of a farm or business which was run by the relative.

Volunteer work or housework or other work around your home are not considered to be work without pay.

Mark "self-employed without paid help" or "self-employed with paid help" as appropriate, and indicate whether your business or farm was incorporated if, in the job reported, you were:

- operating a farm, business or professional practice, alone or in a partnership even if no goods or services were sold or rendered;
- operating a farm, business or professional practice, even if it suffered a loss;
- operating a farm whether you own or rent the land;
- working on a free-lance basis or on contract to do a job, e.g., architects, private duty nurses, dressmakers;
- providing meals and/or rooms and/or day care services in your own home for boarders, roomers or neighbours' children;
- operating a direct distributorship selling and delivering products such as cosmetics, newspapers, brushes, soap products, etc.;
- fishing, trapping or hunting for profit or for the maintenance of your community, with your own equipment or with equipment in which you had a share;
- working to set up a business, farm or professional practice.

The identification of the self-employed, employees, and unpaid family workers indicates the distinct contribution of these kinds of workers to overall employment and economic development in Canada.

Question 31

- (a) Count as a week any week in which you worked, even if you worked only a few hours.

Enter 52 weeks if you were paid for the full year or if you operated a farm, business or professional practice for the full year, even though you worked less than a full year (for example, a school teacher paid on a 12-month basis).

Include weeks on paid vacation but exclude weeks on leave without pay.

- (b) Part-time work is that work which is less than the normally scheduled weekly hours of work performed by persons doing similar work.

This information is essential in evaluating trends in part-time employment as well as determining how many people were continuously employed in 1985 as opposed to being employed for only part of the year.

Question 32

Please note these important points

- Information on your census questionnaire is strictly confidential by law and no individual, government department or agency outside of Statistics Canada has access to it. The Statistics Act prohibits the disclosure by Statistics Canada of any information that can be related to any identifiable individual person.
- Answer every part of this question whether you were working or not. Income reported should be the **total money income** received during the calendar year 1985. If you had no income from any of the listed sources, mark "No". In case of a loss, report the amount and also mark "Loss".
- If you are not sure of an answer, consult the relevant documents, e.g., income tax returns. Otherwise make your best estimate.
- If you received income from abroad, report it in Canadian dollars. However, if you immigrated to Canada after January 1, 1985, do not report income received before your arrival in Canada.
- Do not report either the family allowances received from the Federal and Provincial Governments or the child tax credits. These allowances and credits will be estimated for each family from the number of children shown on this questionnaire.
- Also excluded from income are gambling gains and losses, lottery prizes, money inherited during the year in a lump sum, capital gains or losses, receipts from the sale of property, income tax refunds, loan payments received, lump-sum settlements of insurance policies, rebates received on property taxes, and refunds of pension contributions.

Part (a): Total Wages and Salaries. Report total wages and salaries from all jobs before deductions for income tax, pensions, hospital insurance, etc. (Do not report take-home pay.)

Include military pay and allowances.

Include tips and cash bonuses received during 1985. Also include all types of casual earnings whether or not T4 slips for income tax have been issued.

Commissions should also be included. However, salesmen who worked for more than one company, or who maintained their own office or staff, should report in "non-farm self-employment" part (b). Also persons baby-sitting in their own homes and newspaper boys/girls should report in part (b).

Question 32 (continued)

Do not include the value of taxable allowances and benefits provided by employers, such as free lodging, free automobile use, bursaries, travelling expenses of spouse, contributions towards medical insurance, etc.

If consulting T4 slips to answer this question, report income shown in Box C of T4 Federal Income Tax slips less the value of "taxable allowances and benefits" shown in Boxes K to O.

Owners of an unincorporated business or farm should report all the income from that business or farm as self-employment in part (b) or (c).

Part (b): Net Non-farm Self-employment Income. Report an amount if you owned and operated a non-farm, unincorporated business or professional practice during 1985, whether by yourself or in partnership. In case of a partnership, report only your share of the net income. Receipts from incorporated businesses should be reported in "wages" and/or "investment income".

Report net income (gross receipts minus expenses of operation such as wages, rents, depreciation, etc.). Do not subtract personal deductions such as income tax and pensions.

Persons baby-sitting in their own homes, operators of direct distributorships such as selling and delivering cosmetics, newspapers, etc., and odd jobbers who obtained by themselves contracts or agreements to do jobs should report their income in this part.

Artists, writers, music teachers, hairdressers, dressmakers, etc. should report their net income from free-lance activities.

In case of a loss, report the amount and also mark "Loss".

Part (c): Net Farm Self-employment Income. Report an amount only if you operated a farm in 1985 by yourself or in partnership. In case of a partnership, report only your share of net income.

Report your net income (gross receipts from farm sales minus depreciation and cost of operation). Cash advances should be included in gross receipts for the year in which they are received. Include also government supplementary payments. Exclude the value of income "in kind", such as agricultural products produced and consumed on the farm.

Answer the question even if you employed a hired manager to run your farm and deduct the manager's salary as expenses. If you rent out your farm, report the net rent in "investment income", part (h). Similarly, income from incorporated farms should be reported in "wages" and/or "investment income".

In case of a loss, report the amount and also mark "Loss".

Agricultural operations include production of field crops, vegetables, fruits, greenhouse and nursery products and seeds, maple products, raising poultry and livestock, production of animal products such as eggs, milk and wool, and fur farming and beekeeping.

Part (d): Old Age Security Pension and Guaranteed Income Supplement. Report payments to persons 65 years and over and to 60 to 64-year-old spouses/widows of Old Age Security Pension recipients (Spouse's Allowance) from federal government only.

Provincial income supplements are to be reported in part (g). Retirement pensions of civil servants, RCMP and military personnel are to be reported in part (i). Old age, retirement and war pensions and other similar payments received from foreign governments in 1985 should be reported in (j).

Question 32 (continued)

Part (e): Benefits from Canada or Quebec Pension Plan. Report benefits received under the Canada or Quebec Pension Plan, e.g., retirement pensions, survivors' benefits, disability pensions.

Please do not report your contributions to the Plan but the benefits from it.

Do not include lump-sum death benefits.

Retirement pensions of civil servants, RCMP and military personnel are to be reported in part (i).

Part (f): Benefits from Unemployment Insurance. Report total unemployment insurance benefits, before income tax deductions. Include benefits for sickness, maternity, fishing, work sharing, retraining and retirement received under the Federal Unemployment Insurance program.

Part (g): Other Income from Government Sources Including Provincial Income Supplements and Grants and Social Assistance. Report payments received from provincial or municipal programs by persons in need, including mothers with dependent children, persons temporarily or permanently unable to work, elderly individuals, the blind and the disabled. Include cash benefits covering basic needs (e.g., food, fuel, shelter, clothing) plus cash benefits for special needs.

Include provincial income supplements, i.e. provincial payments to seniors to supplement Old Age Security and Guaranteed Income Supplement.

Include provincial payments to seniors to help offset accommodation costs.

Include here all other transfer payments such as for training under the National Training Program (NTP), veterans' pensions, war veterans' allowance, pensions to widows and dependants of veterans, workers' compensation, etc.

Include, if applicable, provincial tax credits and allowances such as "Nova Scotia Tax Credits", "New Brunswick Tax Credits", "Quebec Real Estate Tax Refund", "Allowances for Children Under Age 6", "Ontario Tax Credits", "Manitoba Tax Credits", "Alberta Royalty Tax Credits", "Alberta Tax Credits", "British Columbia Tax Credits" and "Yukon Territory Tax Credits" as claimed on your income tax return.

Do not include family allowances and federal child tax credits.

Retirement pensions to career military personnel, civil servants, etc., are to be reported in part (i).

Part (h): Dividends and Interest on Bonds, Deposits and Savings Certificates, and Other Investment Income. Report actual amount of dividends received, not the taxable amount for dividends received from Canadian corporate stocks.

Also report here dividends received from foreign stocks.

Report interest from deposits in banks, trust companies, co-operatives, credit unions, caisses populaires, etc., as well as interest on savings certificates, bonds and debentures.

Also report here net rents from real estate (including farm land), mortgage and loan interest received, regular income from an estate or trust fund, and interest from insurance policies.

Also include investment income received from abroad.

If this total is a loss, write the amount and also mark "Loss".

Question 32 (concluded)

Part (i): Retirement Pensions, Superannuation and Annuities. Report income received as the result of having been a member of a pension plan of one or more employers; payments received from all annuities, including payments from a matured registered retirement savings plan (RRSP) in the form of a life annuity, a fixed term annuity, a registered retirement income fund or an income-averaging annuity contract; pensions paid to widows or other relatives of deceased pensioners; pensions of retired civil servants, Armed Forces personnel and RCMP officers; annuity payments received from Canadian Government Annuities Fund, an insurance company, etc.

Do not include lump-sum death benefits, lump-sum benefits and withdrawals from a pension plan or RRSP or refunds of overcontributions. Severance pay and retirement allowances and pensions from outside Canada should be entered in Question 32(j).

Part (j): Other Money Income. Include here all other regular cash income not covered in the questions above.

Examples are:

- alimony;
- child support;
- periodic support from persons not in the household;
- net income from roomers and boarders;
- income from abroad (e.g., pensions) except dividends and interest which should go into (h);
- non-refundable scholarships and bursaries;
- severance pay;
- royalties;
- strike pay.

Do not include:

- family allowances and federal child tax credits;
- cash refunds of pension fund contributions;
- lump-sum death benefits or any other one time lump-sum payment.

Income provides important information on the economic well-being of Canadians and is essential in measuring the welfare of the elderly, single parents, ethnic minorities and the community as a whole. Various government income support programs are based on these data. Income data are also used extensively by businesses in marketing products, locating retail outlets and selecting which new consumer goods to produce.



APPENDIX C. 1981 CENSUS QUESTIONNAIRE AND GUIDE



1981 Census of Canada

 Please complete your questionnaire on
Wednesday, June 3, 1981

Prov.	FED No.	EA No.	VN	2B	1.
Hhid. No.	Doc. type 3	No. of persons	Quest. No. of		2.
				<input type="checkbox"/> S/M <input type="checkbox"/> TR <input type="checkbox"/> UD <input type="checkbox"/> FR	

Aux francophones:

Si ce questionnaire anglais vous a été remis par erreur et si vous désirez un questionnaire français, veuillez appeler le Service auxiliaire téléphonique. Les numéros à composer figurent sur la couverture arrière. On vous remettra un questionnaire dans la langue de votre choix.

Legal requirement

The census of Canada is taken under the authority of the Statistics Act, which requires everyone to provide the information requested.

Confidential when completed

The information you will give will be kept confidential and used only for the production of statistics. No one will see the answers you give except for persons sworn to secrecy under the Statistics Act. These persons are subject to prosecution and legal penalties if they disclose personal census information.

NOTE:

The guide should provide the answers to any problems that may arise. If not, don't hesitate to call our Telephone Assistance Service. The numbers to call are listed on the back cover of this questionnaire and all calls are free of charge.

Please complete address or exact location:

Street and No. or lot and concession

City, town, village, municipality

Province or territory

Postal code

Telephone number:

To Temporary Residents

If all members of this household are **Temporary Residents** (i.e., persons staying here temporarily who have a usual home elsewhere in Canada), enter the total number of temporary residents in this box and do not complete this questionnaire. Follow the return instructions indicated on the envelope which contained this questionnaire.

To Foreign Residents

If all members of this household are **Foreign Residents** (see below), mark this box ☐ and do not complete this questionnaire. Follow the return instructions indicated on the envelope which contained this questionnaire.

Foreign Residents
(any person in the following categories):

- government representatives of another country attached to the legation, embassy or other diplomatic body of that country in Canada, and their families;
- members of the Armed Forces of another country, and their families;
- students from another country attending school in Canada, and their families;
- workers from another country in Canada on Employment Visas, and their families; and
- residents of another country visiting in Canada temporarily.

A message to all Canadians . . .

Every five years Canada takes a census — a national stock-taking of its people and their housing. From the information it provides, we, as a nation, are better equipped to meet the many challenges facing us at every level, national, regional and local.

The answers you give, when compiled into statistics, are used in determining economic and social policies, planning industrial development, and estimating needs for schools, roads and many other public services.

Population figures are used to determine electoral district boundaries, and to calculate per capita grants to provinces and municipalities. For every person who does not initially respond, additional funds must be spent on follow-up procedures. The failure to count yourself in could result in the loss of revenue to your own community.

The Statistics Act, under which the census is carried out, not only defines your obligation to co-operate, but ensures that the information you provide will be kept confidential and used only for the purposes of that Act.

Your co-operation is essential. Please do your part by completing this questionnaire promptly, as of June 3, 1981, in accordance with the instructions provided.

Thank you for your co-operation.

Census statistics tell us that:

- In 1976 the population of Canada was 22,992,604, an increase of almost one and a half million since 1971.
- Between 1971 and 1976 the percentage of married women who were in the labour force increased from 37% to 44%.
- Between 1971 and 1976 the under 30 population decreased to 53.8% of the total from 55.5%.
- Between 1971 and 1976 the number of children in Canada under 10 years old decreased by 450,000. At the same time, Canadians 50 years of age and over increased by 618,000.
- In 1976, 1,205,000 Canadians were living alone, an increase of almost 400,000 since 1971. More than one third (429,000) were 65 years of age and over.

How to Fill Out This Questionnaire

Please mark ☒ all your answers clearly with a dark pencil or pen.

Answer the questions on pages 2 through 5. Then, starting with page 6, fill three pages for each person in your household, using the same order as you used in Question 1. For example, information for Person 2 will be entered on pages 9, 10, 11; information for Person 3 on pages 12, 13 and 14, etc.

INSTRUCTIONS FOR QUESTION 1

ORDER OF LISTING OF HOUSEHOLD MEMBERS

To ensure that all persons in the same family group are listed together, the following order should be used when entering the names of all members of the household in Question 1:

(a) Person 1;

Choose one of the following as Person 1:

- either the husband or the wife in any married couple living here
- either partner in a common-law relationship
- the parent, where one parent only lives with his or her never-married son(s) or daughter(s) of any age.

If none of the above applies, choose any adult member of this household.

(b) husband or wife (or common-law partner) of Person 1;

(c) never-married children or stepchildren of Person 1;

(d) other children of Person 1, and their families;

(e) other relatives of Person 1 (whether related by blood, marriage, adoption or common-law), and their families;

(f) persons not related to Person 1, and their families.

WHOM TO INCLUDE

To make certain that every resident of Canada is counted in the census (and that no one is counted more than once), the following guidelines should be used when deciding who should be included on this questionnaire.

Include

- all persons who usually live here, even if they are temporarily away (such as on business or at school);
- any persons staying or visiting here who have no other usual home;
- persons who usually live here but are now in an institution (such as a hospital, correctional institution), if they have been there for less than six months;
- unmarried persons who have a home elsewhere but stay in this dwelling most of the week while working;
- infants born on or before June 2, 1981;
- deceased persons who were alive at midnight between June 2 and June 3, 1981.

Do not include

- persons who are now in an institution and have been there for the past six months or longer;
- infants born on or after June 3, 1981;
- persons permanently away in the Armed Forces;
- post-secondary students who are financially independent and who live elsewhere;
- unmarried sons or daughters who live elsewhere most of the week while working, even if they return home on the weekends;
- foreign residents (see front cover).

HOUSEHOLDS WITH MORE THAN SIX PERSONS

If there are more than six persons in this household, enter the first six on one questionnaire and continue with the seventh person on a second questionnaire, starting in the row marked "Person 2".

If you need additional questionnaires, see the instructions for Question 1 in the Guide.

1. NAME

Using the instructions given on the left, print below the names of all persons usually living here as of Wednesday, June 3, 1981.

Person 1

01

Last name

Given name and initial

Person 2

02

Last name

Given name and initial

Person 3

03

Last name

Given name and initial

Person 4

04

Last name

Given name and initial

Person 5

05

Last name

Given name and initial

Person 6

06

Last name

Given name and initial

2. RELATIONSHIP TO PERSON 1

For each person in this household, mark ☒ one box only to describe his or her relationship to Person 1.

If you mark the box "Other relative" or "Other non-relative", print in the relationship to Person 1.

Some examples of the "Other" relationships are:

grandmother
uncle

room-mate's daughter
employee's husband

For further examples and special cases, see Guide.

01 ☒ Person 102 ☐ Husband or wife of Person 103 ☐ Common-law partner of Person 104 ☐ Son or daughter of Person 105 ☐ Father or mother of Person 106 ☐ Brother or sister of Person 107 ☐ Son-in-law or daughter-in-law of Person 108 ☐ Father-in-law or mother-in-law of Person 109 ☐ Brother-in-law or sister-in-law of Person 110 ☐ Grandchild of Person 111 ☐ Nephew or niece of Person 1
☐ Other relative of Person 1
(print below)
17 ☐ -----12 ☐ Lodger13 ☐ Lodger's husband or wife14 ☐ Lodger's son or daughter15 ☐ Room-mate16 ☐ Employee
☐ Other non-relative
(print below)
04 ☐ Son or daughter of Person 105 ☐ Father or mother of Person 106 ☐ Brother or sister of Person 107 ☐ Son-in-law or daughter-in-law of Person 108 ☐ Father-in-law or mother-in-law of Person 109 ☐ Brother-in-law or sister-in-law of Person 110 ☐ Grandchild of Person 111 ☐ Nephew or niece of Person 1
☐ Other relative of Person 1
(print below)
17 ☐ -----12 ☐ Lodger13 ☐ Lodger's husband or wife14 ☐ Lodger's son or daughter15 ☐ Room-mate16 ☐ Employee
☐ Other non-relative
(print below)
04 ☐ Son or daughter of Person 105 ☐ Father or mother of Person 106 ☐ Brother or sister of Person 107 ☐ Son-in-law or daughter-in-law of Person 108 ☐ Father-in-law or mother-in-law of Person 109 ☐ Brother-in-law or sister-in-law of Person 110 ☐ Grandchild of Person 111 ☐ Nephew or niece of Person 1
☐ Other relative of Person 1
(print below)
17 ☐ -----12 ☐ Lodger13 ☐ Lodger's husband or wife14 ☐ Lodger's son or daughter15 ☐ Room-mate16 ☐ Employee
☐ Other non-relative
(print below)
04 ☐ Son or daughter of Person 105 ☐ Father or mother of Person 106 ☐ Brother or sister of Person 107 ☐ Son-in-law or daughter-in-law of Person 108 ☐ Father-in-law or mother-in-law of Person 109 ☐ Brother-in-law or sister-in-law of Person 110 ☐ Grandchild of Person 111 ☐ Nephew or niece of Person 1
☐ Other relative of Person 1
(print below)
17 ☐ -----12 ☐ Lodger13 ☐ Lodger's husband or wife14 ☐ Lodger's son or daughter15 ☐ Room-mate16 ☐ Employee
☐ Other non-relative
(print below)
04 ☐ Son or daughter of Person 105 ☐ Father or mother of Person 106 ☐ Brother or sister of Person 107 ☐ Son-in-law or daughter-in-law of Person 108 ☐ Father-in-law or mother-in-law of Person 109 ☐ Brother-in-law or sister-in-law of Person 110 ☐ Grandchild of Person 111 ☐ Nephew or niece of Person 1
☐ Other relative of Person 1
(print below)
17 ☐ -----12 ☐ Lodger13 ☐ Lodger's husband or wife14 ☐ Lodger's son or daughter15 ☐ Room-mate16 ☐ Employee
☐ Other non-relative
(print below)

3. DATE OF BIRTH Print day, month and year. Example: If you were born on the 10th of February, 1945, you would enter 10 02 45 Day Month Year If exact date is not known, enter best estimate.	4. SEX 19 <input type="checkbox"/> Male 20 <input type="checkbox"/> Female	5. MARITAL STATUS What is your marital status? (See Guide for further information.) Mark one box only	6. What is the language you first learned in childhood and still understand? Mark one-box only	OFFICE USE ONLY
Day <input type="text"/> 18 <input type="text"/> <input type="text"/> <input type="text"/> Month Year	19 <input type="checkbox"/> Male 20 <input type="checkbox"/> Female	21 <input type="checkbox"/> Now married (excluding separated) 22 <input type="checkbox"/> Separated 23 <input type="checkbox"/> Divorced 24 <input type="checkbox"/> Widowed 25 <input type="checkbox"/> Never married (single)	57 <input type="checkbox"/> English 58 <input type="checkbox"/> French 59 <input type="checkbox"/> German 60 <input type="checkbox"/> Italian 61 <input type="checkbox"/> Ukrainian 62 <input type="text"/> <input type="text"/> <input type="text"/> Other (specify)	63 <input type="checkbox"/> A 64 <input type="checkbox"/> F 65 <input type="checkbox"/> M 66 <input type="checkbox"/> U
Day <input type="text"/> 18 <input type="text"/> <input type="text"/> <input type="text"/> Month Year	19 <input type="checkbox"/> Male 20 <input type="checkbox"/> Female	21 <input type="checkbox"/> Now married (excluding separated) 22 <input type="checkbox"/> Separated 23 <input type="checkbox"/> Divorced 24 <input type="checkbox"/> Widowed 25 <input type="checkbox"/> Never married (single)	57 <input type="checkbox"/> English 58 <input type="checkbox"/> French 59 <input type="checkbox"/> German 60 <input type="checkbox"/> Italian 61 <input type="checkbox"/> Ukrainian 62 <input type="text"/> <input type="text"/> <input type="text"/> Other (specify)	63 <input type="checkbox"/> A 64 <input type="checkbox"/> F 65 <input type="checkbox"/> M 66 <input type="checkbox"/> U
Day <input type="text"/> 18 <input type="text"/> <input type="text"/> <input type="text"/> Month Year	19 <input type="checkbox"/> Male 20 <input type="checkbox"/> Female	21 <input type="checkbox"/> Now married (excluding separated) 22 <input type="checkbox"/> Separated 23 <input type="checkbox"/> Divorced 24 <input type="checkbox"/> Widowed 25 <input type="checkbox"/> Never married (single)	57 <input type="checkbox"/> English 58 <input type="checkbox"/> French 59 <input type="checkbox"/> German 60 <input type="checkbox"/> Italian 61 <input type="checkbox"/> Ukrainian 62 <input type="text"/> <input type="text"/> <input type="text"/> Other (specify)	63 <input type="checkbox"/> A 64 <input type="checkbox"/> F 65 <input type="checkbox"/> M 66 <input type="checkbox"/> U
Day <input type="text"/> 18 <input type="text"/> <input type="text"/> <input type="text"/> Month Year	19 <input type="checkbox"/> Male 20 <input type="checkbox"/> Female	21 <input type="checkbox"/> Now married (excluding separated) 22 <input type="checkbox"/> Separated 23 <input type="checkbox"/> Divorced 24 <input type="checkbox"/> Widowed 25 <input type="checkbox"/> Never married (single)	57 <input type="checkbox"/> English 58 <input type="checkbox"/> French 59 <input type="checkbox"/> German 60 <input type="checkbox"/> Italian 61 <input type="checkbox"/> Ukrainian 62 <input type="text"/> <input type="text"/> <input type="text"/> Other (specify)	63 <input type="checkbox"/> A 64 <input type="checkbox"/> F 65 <input type="checkbox"/> M 66 <input type="checkbox"/> U
Day <input type="text"/> 18 <input type="text"/> <input type="text"/> <input type="text"/> Month Year	19 <input type="checkbox"/> Male 20 <input type="checkbox"/> Female	21 <input type="checkbox"/> Now married (excluding separated) 22 <input type="checkbox"/> Separated 23 <input type="checkbox"/> Divorced 24 <input type="checkbox"/> Widowed 25 <input type="checkbox"/> Never married (single)	57 <input type="checkbox"/> English 58 <input type="checkbox"/> French 59 <input type="checkbox"/> German 60 <input type="checkbox"/> Italian 61 <input type="checkbox"/> Ukrainian 62 <input type="text"/> <input type="text"/> <input type="text"/> Other (specify)	63 <input type="checkbox"/> A 64 <input type="checkbox"/> F 65 <input type="checkbox"/> M 66 <input type="checkbox"/> U
Day <input type="text"/> 18 <input type="text"/> <input type="text"/> <input type="text"/> Month Year	19 <input type="checkbox"/> Male 20 <input type="checkbox"/> Female	21 <input type="checkbox"/> Now married (excluding separated) 22 <input type="checkbox"/> Separated 23 <input type="checkbox"/> Divorced 24 <input type="checkbox"/> Widowed 25 <input type="checkbox"/> Never married (single)	57 <input type="checkbox"/> English 58 <input type="checkbox"/> French 59 <input type="checkbox"/> German 60 <input type="checkbox"/> Italian 61 <input type="checkbox"/> Ukrainian 62 <input type="text"/> <input type="text"/> <input type="text"/> Other (specify)	63 <input type="checkbox"/> A 64 <input type="checkbox"/> F 65 <input type="checkbox"/> M 66 <input type="checkbox"/> U

A dwelling is a separate set of living quarters with a private entrance from the outside or from a common hallway or stairway inside the building. This entrance should not be through someone else's living quarters.

7. Enter the name of the person (or one of the persons) who lives here and is responsible for paying the rent, or mortgage, or taxes, or electricity, etc., for this dwelling.

07

01

Last name

Given name and initial

This person should answer the following questions about this dwelling.

NOTE: If no one living here makes any such payments, mark here ☐ and answer the dwelling questions yourself.

8. How many persons usually live here (according to the WHOM TO INCLUDE item in the INSTRUCTIONS FOR QUESTION 1)?

02

Number of persons

9. Did you leave anyone out of Question 1 because you were not sure whether he or she should be listed? For example, a student, a lodger who also has another home, a new baby still in hospital, or a former occupant of this household who has become a patient in a hospital or sanatorium within the past six months.

☐ Yes☐ No

If "Yes", print the name of each person left out and the reason.

Name

Reason

Name

Reason

If you require more space, please use the Comments section on the back cover.

10. How many persons who have a usual home elsewhere in Canada are staying or visiting here temporarily (as of Census Day, June 3)?

☐ None

OR

☐ Number of persons

11. Is this dwelling:

Mark one box only

03 ☐ owned or being bought by you or a member of this household?04 ☐ rented (even if no cash rent is paid)?

12. Is this dwelling a:

Mark one box only

- 05 ☐ single house — a single dwelling not attached to any other building and surrounded on all sides by open space?



- 06 ☐ semi-detached or double house — one of two dwellings attached side by side but not attached to any other building and surrounded on all other sides by open space?



- 07 ☐ duplex — one of two dwellings, one above the other, not attached to any other building and surrounded on all sides by open space?



- 08 ☐ row house — one of three or more dwellings joined side by side but not having any other dwellings either above or below?



- 09 ☐ apartment in a building that has five or more storeys — for example, a dwelling unit in a highrise apartment building?



- 10 ☐ apartment in a building that has less than five storeys — for example, a dwelling unit in a triplex, quadruplex or a dwelling unit in a non-residential building or in a house that has been converted?



- 11 ☐ house attached to a non-residential building — a single dwelling attached at ground level to another building (such as a store, etc.) but separated from it by a common wall running from ground to roof?



- 12 ☐ mobile home (designed and constructed to be transported on its own chassis and capable of being moved on short notice)?



- 13 ☐ other movable dwelling (such as a tent, travel trailer, railroad car or houseboat)?



OFFICE USE ONLY

14 ☐ Trans.18 ☐ JIC - A15 ☐ Coll.19 ☐ JIC - B16 ☐ Ref.17 ☐ Miss.

13. When was this dwelling or the building containing this dwelling originally built? (To the best of your knowledge, mark the period in which the building was completed, not the time of any later remodelling, additions or conversions.)

☐ 08 Mark one box only

- | | |
|--|---|
| 01 <input type="checkbox"/> 1920 or before | 05 <input type="checkbox"/> 1971 - 1975 |
| 02 <input type="checkbox"/> 1921 - 1945 | 06 <input type="checkbox"/> 1976 - 1979 |
| 03 <input type="checkbox"/> 1946 - 1960 | 07 <input type="checkbox"/> 1980 |
| 04 <input type="checkbox"/> 1961 - 1970 | 08 <input type="checkbox"/> 1981 |

14. How long have you lived in this dwelling?

Mark one box only

- 09 ☐ Less than one year
 10 ☐ One to two years
 11 ☐ Three to five years
 12 ☐ Six to ten years
 13 ☐ More than ten years

15. How many rooms are there in this dwelling? (Include kitchen, bedrooms, finished rooms in attic or basement, etc. Do not count bathrooms, halls, vestibules and rooms used solely for business purposes.)

14 Number of rooms

16. How many bathrooms are there within this dwelling?
 (See Guide for further information.)

15 ☐ None
 OR

16 Number of complete bathrooms

17 Number of half bathrooms

17. What is the main type of heating equipment for this dwelling?

Mark one box only

- 18 ☐ Steam or hot water furnace
 19 ☐ Forced hot air furnace
 20 ☐ Installed electric heating system
 21 ☐ Heating stove, cooking stove, space heater
 22 ☐ Other (fireplace, etc.)

18. (a) Which fuel is used most for heating this dwelling?

- | | |
|--|--|
| 23 <input type="checkbox"/> Oil or kerosene | 27 <input type="checkbox"/> Wood |
| 24 <input type="checkbox"/> Piped gas, e.g., natural gas | 28 <input type="checkbox"/> Coal or coke |
| 25 <input type="checkbox"/> Bottled gas, e.g., propane | 29 <input type="checkbox"/> Other fuel |
| 26 <input type="checkbox"/> Electricity | |

- (b) Which fuel is used most for water heating in this dwelling?

- | | |
|--|--|
| 30 <input type="checkbox"/> Oil or kerosene | 34 <input type="checkbox"/> Wood |
| 31 <input type="checkbox"/> Piped gas, e.g., natural gas | 35 <input type="checkbox"/> Coal or coke |
| 32 <input type="checkbox"/> Bottled gas, e.g., propane | 36 <input type="checkbox"/> Other fuel |
| 33 <input type="checkbox"/> Electricity | |

19. Is this dwelling in need of any repairs? (Do not include desirable remodelling or additions.)

- 37 ☐ No, only regular maintenance is needed (painting, furnace cleaning, etc.)
 38 ☐ Yes, minor repairs are needed (missing or loose floor tiles, bricks or shingles, defective steps, railing or siding, etc.)
 39 ☐ Yes, major repairs are needed (defective plumbing or electrical wiring, structural repairs to walls, floors or ceilings, etc.)

Answer Questions 20 to 22 for only the dwelling that you now occupy, even if you own or rent more than one dwelling. If exact amount is not known, please enter your best estimate.

NOTE: If you are a farm operator living on the farm you operate, mark here

40 ☐ and go to page 6.

20. For this dwelling, what are the yearly payments (last 12 months) for:

(a) electricity?

41 ☐ None, or included in rent or other payments,

OR

Dollars Cents
 42 per year

(b) oil, gas, coal, wood or other fuels?

43 ☐ None, or included in rent or other payments,

OR

Dollars Cents
 44 per year

(c) water and other municipal services?

45 ☐ None, or included in rent, municipal taxes or other payments,

OR

Dollars Cents
 46 per year

21. For RENTERS only: What is the monthly cash rent you pay for this dwelling?

47 ☐ Rented without payment of cash rent

OR

Dollars Cents
 48 per month

Go to page 6

22. For OWNERS only:

(a) What are your total regular monthly mortgage (or debt) payments for this dwelling?

49 ☐ None ☐ Go to Question 22(c)

OR

Dollars Cents
 50 per month

(b) Are your property taxes (municipal and school) included in the amount shown in Question 22(a)?

51 ☐ Yes ☐ Go to Question 22(d)

52 ☐ No

(c) What are your estimated yearly property taxes (municipal and school) for this dwelling?

53 ☐ None

OR

Dollars Cents
 54 per year

(d) If you were to sell this dwelling now, for how much would you expect to sell it?

Dollars Cents
 55

(e) Is this dwelling part of a registered condominium?

56 ☐ Yes

57 ☐ No

NAME OF PERSON 1

Last name

Given name and initial

23. Where were you born? (Mark according to present boundaries.)

IN CANADA

Mark one box only

- 01 ☐ Nfld.
 02 ☐ P.E.I.
 03 ☐ N.S.
 04 ☐ N.B.
 05 ☐ Que.
 06 ☐ Ont.
 07 ☐ Man.
 08 ☐ Sask.
 09 ☐ Alta.
 10 ☐ B.C.
 11 ☐ Yukon
 12 ☐ N.W.T.

OUTSIDE CANADA

Mark one box only

- 13 ☐ United Kingdom
 14 ☐ Italy
 15 ☐ U.S.A.
 16 ☐ West Germany
 17 ☐ East Germany
 18 ☐ Poland

Other (specify)

19 ☐

24. Of what country are you a citizen?

Mark as many boxes as apply

- 20 ☐ Canada, by birth **▶ Go to Question 26**
 21 ☐ Canada, by naturalization
 22 ☐ Same as country of birth (other than Canada) **▶ Go to Question 25**
 23 ☐ Other

25. In what year did you first immigrate to Canada?

Print year below

If exact year is not known, please enter best estimate.

24

26. To which ethnic or cultural group did you or your ancestors belong on first coming to this continent?

(See Guide for further information.)

- 25 ☐ French Native Peoples
 26 ☐ English 27 ☐ Inuit
 27 ☐ Irish 28 ☐ Status or registered Indian
 28 ☐ Scottish 29 ☐ Non-status Indian
 29 ☐ German 30 ☐ Metis
 30 ☐ Italian
 31 ☐ Ukrainian
 32 ☐ Dutch (Netherlands)
 33 ☐ Polish
 34 ☐ Jewish
 35 ☐ Chinese
 36 ☐ Other (specify)

27. What is your religion?

Mark one box only

- 41 ☐ Roman Catholic 49 ☐ Ukrainian Catholic
 42 ☐ United Church 50 ☐ Pentecostal
 43 ☐ Anglican 51 ☐ Jehovah's Witnesses
 44 ☐ Presbyterian 52 ☐ Mennonite
 45 ☐ Lutheran 53 ☐ Salvation Army
 46 ☐ Baptist 54 ☐ Islam
 47 ☐ Greek Orthodox 55 ☐ No religion
 48 ☐ Jewish 56 ☐ Other (specify)

28. What language do you yourself speak at home now?

(If more than one language, which language do you speak most often?)

Mark one box only

- 57 ☐ English
 58 ☐ French
 59 ☐ German
 60 ☐ Italian
 61 ☐ Ukrainian

62 ☐ Other (specify)

29. Can you speak English or French well enough to conduct a conversation?

(See Guide for further information.)

Mark one box only

- 63 ☐ English only
 64 ☐ French only
 65 ☐ Both English and French
 66 ☐ Neither English nor French

30. Were you born before June 3, 1967?

- ☐ No **▶ END HERE FOR THIS PERSON**
☐ Yes **▶ Continue with Questions 31 to 46**

31. What is the highest grade or year of secondary (high) or elementary school you ever attended?

(See Guide for further information.)

- 67 ☐ No schooling or kindergarten only
 OR
 68 ☐ Highest grade or year (1 to 13) of secondary or elementary school

32. How many years of education have you ever completed at university?

- 69 ☐ None
 70 ☐ Less than 1 year (of completed courses)
 71 ☐ Number of completed years

33. How many years of schooling have you ever completed at an institution other than a university, secondary (high) or elementary school? Include years of schooling at community colleges, institutes of technology, CEGEPs (general and professional), private trade schools or private business colleges, diploma schools of nursing, etc.

(See Guide for further information.)

- 72 ☐ None
 73 ☐ Less than 1 year (of completed courses)
 74 ☐ Number of completed years

34. What degrees, certificates or diplomas have you ever obtained?

(See Guide for further information.)

Mark as many boxes as apply

- 75 ☐ None
 76 ☐ Secondary (high) school graduation certificate
 77 ☐ Trades certificate or diploma
 78 ☐ Other non-university certificate or diploma (obtained at community college, CEGEP, institute of technology, etc.)
 79 ☐ University certificate or diploma below bachelor level
 80 ☐ Bachelor's degree(s) (e.g., B.A., B.Sc., B.A.Sc., LL.B.)
 81 ☐ University certificate or diploma above bachelor level
 82 ☐ Master's degree(s) (e.g., M.A., M.Sc., M.Ed.)
 83 ☐ Degree in medicine, dentistry, veterinary medicine or optometry (M.D., D.D.S., D.M.D., D.V.M., O.D.)
 84 ☐ Earned doctorate (e.g., Ph.D., D.Sc., D.Ed.)

QUESTIONS FOR PERSON 1 - CONTINUED

35. Have you attended a school, college or university at any time since last September? (Include attendance at elementary or secondary schools, business or trade schools, community colleges, institutes of technology, CEGEPs, etc.)

10 Mark one box only

- 01 ☐ No
02 ☐ Yes, full-time
03 ☐ Yes, part-time, day or evening

36. Where did you live 5 years ago on June 1, 1976?

Mark one box only

NOTE: If your place of residence 5 years ago was a municipality within a large urban area, be careful not to confuse suburban municipalities with the largest city. For example, distinguish between Montréal-Nord and Montréal, Scarborough and Toronto, West Vancouver and Vancouver.

- 04 ☐ This dwelling
05 ☐ Different dwelling in this city, town, village, borough, or municipality
06 ☐ Outside Canada
07 ☐ Different city, town, village, borough, or municipality in Canada (specify below)

Go to Question 37

City, town, village, borough, or municipality

County Province or territory

08 ☐ ☐ ☐ ☐

37. For WOMEN who are married or have ever been married: How many children were ever born to you? (Count all children including those who may have died since birth or who may now be living elsewhere. However do not include stillbirths.)

- 09 ☐ None OR
10 ☐ Number of children

38. For ALL PERSONS who are married or have ever been married: What were the month and year of your first marriage?

If exact month or year are not known, enter best estimate

11 ☐ ☐ ☐ ☐ ☐ ☐
Month Year

39. (a) Last week, how many hours did you work (not including housework or other work around your home)?

Include:

- working for wages, salary, tips or commission,
- working in your own business, farm or professional practice,
- working without pay in a family farm or business.

- 12 ☐ None ☐ Continue with Questions 39(b) to 46
OR
13 ☐ Hours (to the nearest hour) ☐ Go to Question 41

- (b) Last week, were you on temporary lay-off or absent from your job or business?

Mark one box only

- 14 ☐ No
15 ☐ Yes, on temporary lay-off
16 ☐ Yes, on vacation, ill, on strike or locked out, or absent for other reasons

- (c) Last week, did you have definite arrangements to start a new job within the next four weeks?

- 17 ☐ No
18 ☐ Yes

- (d) Did you look for work during the past four weeks? For example, did you contact a Canada Employment Centre, check with employers, place or answer newspaper ads?

Mark one box only

- 19 ☐ No ☐ Go to Question 40
20 ☐ Yes, looked for full-time work
21 ☐ Yes, looked for part-time work (less than 30 hours per week)

- (e) Was there any reason why you could not start work last week?

Mark one box only

- 22 ☐ No, could have started work
23 ☐ Yes, already had a job
24 ☐ Yes, temporary illness or disability
25 ☐ Yes, personal or family responsibilities
26 ☐ Yes, going to school
27 ☐ Yes, other reasons

40. When did you last work, even for a few days (not including housework or other work around your home)?

Mark one box only

- 28 ☐ In 1981 ☐ Answer Questions 41 to 46
29 ☐ In 1980
30 ☐ Before 1980
31 ☐ Never worked in lifetime ☐ Go to Question 46

41. NOTE: Questions 41 to 44 refer to your job or business last week. If none, answer for your job of longest duration since January 1, 1980. If you held more than one job last week, answer for the job at which you worked the most hours.

- (a) For whom did you work?

Name of firm, government agency, etc.

Department, branch, division, section or plant

- (b) What kind of business, industry or service was this?

Give full description. For example, paper box manufacturing, road construction, retail shoe store, secondary school, dairy farm.

32 ☐ ☐ ☐ ☐

42. At what address did you work? If no usual place of work, see Guide.

Mark one box only

- 33 ☐ Worked at home (includes living and working on the same farm)
34 ☐ Worked outside Canada
35 ☐ Worked at address below (please specify)

Number Street

If street address is not known, give the building name, shopping centre or street intersection, etc.

City, town, village, borough, township or other municipality

Important: If you worked in a suburban municipality within a large urban area, specify that municipality, not the main city.

County Province or territory

36 ☐ ☐ ☐ ☐ ☐ ☐ 37 ☐ 38 ☐ ☐ ☐ ☐

QUESTIONS FOR PERSON 1 - CONCLUDED

43. (a) What kind of work were you doing?

For example, accounting clerk, sales representative, civil engineer, secondary school teacher, chief electrician, metal worker.

(b) In this work, what were your most important activities or duties?

For example, verifying invoices, selling electrical tools, managing the research department, teaching mathematics, supervising construction electricians, operating lathe (If in the Armed Forces give rank.)

11

01

44. (a) In this job were you mainly:

- 02 ☐ working for wages, salary, tips or commission?
 03 ☐ working without pay for a relative in a family farm or business?
 04 ☐ self-employed without paid help?
 05 ☐ self-employed with paid help?

Go to Question 45

Continue with Question 44(b)

(b) If self-employed, was your farm or business incorporated?

- 06 ☐ No
 07 ☐ Yes

45. (a) In how many weeks did you work during 1980 (not including housework or other work around your home)?

Include those weeks in which you:

- worked full-time or part-time;
 • were on vacation or sick leave with pay;
 • were self-employed.

08 ☐ None

OR

09 ☐ Weeks

(b) During most of those weeks, did you work full-time or part-time?

Mark one box only

- 10 ☐ Full-time
 11 ☐ Part-time

CONTINUE WITH QUESTION 46

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12 ☐ In

* Questions 23 to 46 have been asked to each person listed on page 2 of this questionnaire.

46. During the year ending December 31, 1980, did you receive any income or suffer any loss from the sources listed below?

- If yes, please check the "Yes" box and enter the amount; in case of a loss, also check the "Loss" box.
 — If no, please check the "No" box and proceed to the next source.
 — Do not include family allowances.
 — Please consult the Guide for details.

AMOUNT

Dollars Cents

(a) Total wages and salaries including commissions, bonuses, tips, etc., before any deductions

- 13 ☐ Yes
 14 ☐ No

(b) Net non-farm self-employment income (gross receipts minus expenses) from unincorporated business, professional practice etc., on own account or in partnership

- 15 ☐ Yes
 16 ☐ Loss
 17 ☐ No

(c) Net farm self-employment income (gross receipts minus expenses) from agricultural operations on own account or in partnership

- 18 ☐ Yes
 19 ☐ Loss
 20 ☐ No

(d) Old age security pension and guaranteed income supplement from federal government only, and benefits from Canada or Quebec Pension Plan (Provincial income supplements should be reported in (f))

- 21 ☐ Yes
 22 ☐ No

(e) Benefits from Unemployment Insurance

- 23 ☐ Yes
 24 ☐ No

(f) Other income from government sources including provincial income supplements and social assistance, e.g., veterans' pensions, workers' compensation, welfare payments (Do not include family allowances)

- 25 ☐ Yes
 26 ☐ No

(g) Dividends and interest on bonds, deposits and savings certificates, and other investment income, e.g., net rents from real estate, interest from mortgages

- 27 ☐ Yes
 28 ☐ Loss
 29 ☐ No

(h) Retirement pensions, superannuation and annuities and other money income, e.g., alimony, scholarships (Do not include family allowances)

- 30 ☐ Yes
 31 ☐ No

(i) Total income from all of the above sources (Do not include family allowances)

- 32 ☐ Yes
 33 ☐ Loss
 34 ☐ No

END OF QUESTIONS FOR PERSON 1
PERSON 2 - CONTINUE

Form 9B: 1981 Census Guide



9B

1981 Census Guide



Count Yourself In On Census Day, Wednesday, June 3, 1981.

The Census of Canada will provide a vast inventory of information to help meet today's challenges and plan for the future.

Some uses of census data are:

- to determine the size and number of Federal Electoral Districts
- to provide a basis for calculating provincial grants to municipalities
- to plan social service programmes
- to plan local community services
- to plan locations of industrial plants

Your personal information is kept strictly confidential by law and used only for the production of statistics.

All census workers are sworn to secrecy under the Statistics Act and are subject to legal penalties should they divulge any personal information.

We ask for your name

- to check that every person in your household is included

You are required by law to provide the information requested.

Question 1

Refer to the instructions for Question 1 on the questionnaire when considering whom to (or not to) include as members of your household. If you have doubts as to whether a person should be listed, enter the person's name and the reason in the space provided in Question 9.

If there are more than six persons in your household and you do not have a second questionnaire, note this in the "Comments" section of your questionnaire, complete the questionnaire for six persons in your household and return as instructed. A Census Representative will contact you later with an additional questionnaire.

Question 2

To enable us to identify family groups within the household it is necessary to select a reference person (Person 1), and to state the relationship of each household member to that person. For example, if John Smith lives with his father Thomas Smith, and Thomas Smith has been entered as Person 1, John Smith would mark "Son or daughter of Person 1".

There may be a member or members of your household whose relationship to Person 1 is not described in Question 2. In such cases, mark either "Other relative of Person 1" or "Other non-relative", and also print the exact relationship to Person 1 in the space provided.

"Other relative" includes persons such as uncles, aunts, cousins, grandfathers, grandmothers, and so on. "Other non-relative" refers to household members who are not related to Person 1 by blood, marriage, adoption or common-law. Some examples are employee's wife, employee's daughter, room-mates' son, landlord, and so on.

The term "common-law", as used in "Common-law partner of Person 1" or as may be used to describe any other such partnership in the household (for example, "Lodger's common-law partner"), should be interpreted as applying to any case of a couple living together in this type of union.

Note that stepchildren, adopted children, and children of a common-law partner should be considered as sons and daughters. Foster children, wards and guardianship children who are not related to Person 1 by blood, marriage, adoption or common-law should be listed as lodgers.

Question 5

Mark "Now married" if you have a husband or wife who is now living, even if you are temporarily living apart because one of you is employed away from home, hospitalized, etc., but not if you are actually separated or have obtained a divorce.

For census purposes, couples living in a common-law type of arrangement are considered as "Now married", regardless of their legal marital status.

Mark "Separated" if you are separated from your husband or wife due to causes such as desertion or marriage breakdown, or because you no longer want to live together, provided that no divorce has been obtained.

Mark "Divorced" if you have obtained a divorce and have not remarried.

Question 6

You must still understand the language you report in this question. For infants, report the FIRST language they are or will be learning.

Question 8

If your household has more than six persons you will require more than one questionnaire. Please see the guideline for Question 1 above.

If you are using more than one questionnaire, please answer this question on the first questionnaire only.

Question 9

If you have difficulty determining if a person should be included on your questionnaire, please refer to the WHOM TO INCLUDE item on the questionnaire in the column adjacent to Question 1.

Question 11

Special cases

Mark "Owned" if the dwelling you occupy is owned or being bought by you and/or a member of this household even if (a) it is situated on rented or leased land or (b) it is part of a condominium (whether registered or unregistered). For census purposes, a **condominium** is a multi-unit residential complex in which dwellings are owned individually while land is held in joint ownership with others.

Mark "Rented" in all other cases even if the dwelling you occupy is (a) provided without cash rent or at a reduced rent, such as a clergyman's residence, a superintendent's dwelling in an apartment building, etc., or is (b) part of a co-operative. For census purposes, in a **co-operative** all members jointly own the co-operative and occupy their dwelling units under a lease agreement.

Question 12

Single and semi-detached house

If you live in what is referred to as a "linked home" (a single house which is not attached to any other dwelling above ground, but is attached below ground), mark "Single house".

Duplex and apartment

Two dwellings, one above the other, **attached** to other dwellings are to be considered as apartments and **not** as duplexes.

Apartment

Do not count as storeys, floors that are used solely for parking, storage or laundry and recreation facilities.

If you are in doubt concerning the number of storeys in an apartment building, mark "Apartment in a building that has five or more storeys" **if there is at least one passenger elevator in the building**. If there is no passenger elevator in the building, mark "Apartment in a building that has less than five storeys".

Question 14

Except for less than one year, report only full years, for example, report 2½ years by marking the box "One to two years".

Question 15

Do not enter "half-rooms" for example, instead of 1½, enter either 1 or 2, depending on which best describes your dwelling.

Include as **separate rooms** partially divided rooms which you consider to be separate because of a fixed or movable partition or because of their use (e.g., "L-shaped" living-dining rooms).

Question 16

A complete bathroom has at least a flush toilet, a wash-basin and a bathtub or shower.

A half bathroom has a flush toilet and wash-basin.

Mark "None" if your dwelling does not contain a room with at least a flush toilet and a wash-basin.

Question 17

If you use portable plug-in electrical heating coils as your main type of heating equipment, mark "Heating stove, cooking stove, space heater".

Instruction prior to Question 20

In Questions 20, 21 and 22, if your payments include both **business and residential** expenses, enter your estimate for the residential portion only.

Question 20

If you have occupied this dwelling for *less than a year*, estimate the yearly amount based on your payments up to this date or on other available information.

Condominium owners — If electricity or other service charges are included in the condominium fee, mark "None".

Question 21

Include *parking fees* paid with the rent, if any

Question 22(a)

Mortgage payments are sometimes made in other than monthly instalments (e.g., once, twice a year or every three months, etc.). In this case add all payments made in that year and divide the total by 12, to obtain the average monthly amount paid.

Question 22(c)

Include local improvement taxes with the property taxes, even if billed separately.

Question 22(d)

State the value of the entire dwelling, including the value of the land it is on and of any other structure such as a garage which is on the property. If you occupy a dwelling within a multi-dwelling building which you own, *do not* give the value of the entire building. In this case, you may estimate the value of your dwelling by multiplying by 100 the amount of rent per month which you could obtain for that one dwelling.

Question 23

Persons born in parts of Canada which were part of the Northwest Territories at the time of their birth, but which have since become provinces of Canada, should report their place of birth according to present provincial boundaries. Persons born in the province of Newfoundland and Labrador before that province joined Confederation should mark "Nfld.". Persons born in the six counties of Northern Ireland should mark "United Kingdom". Persons born in any of the other counties of Ireland should print "Eire" in the space provided.

If you are not sure of the country of your birth because of boundary changes, print the name of the nearest city or district in the space provided.

Question 24

Report whether you are a Canadian citizen by birth or by naturalization.

If you were born outside Canada of Canadian citizens and were registered as a Canadian citizen, mark "Canada by birth".

If you were born outside Canada and are not a Canadian citizen, mark "Same as country of birth (other than Canada)", if your citizenship is that of your country of birth, otherwise mark "Other". If you have dual citizenship, mark the applicable boxes.

If you have lost your former citizenship and have not yet become a Canadian citizen, or if you have no citizenship for any other reason, you should mark "Other".

Question 25

Report the year when you first immigrated to Canada.

Question 26

Ethnic or cultural group refers to the "roots" of the population, and should not be confused with citizenship or nationality. Canadians belong to many ethnic or cultural groups — English, French, Irish, Scottish, Ukrainian, Native Indian, Chinese, Japanese, Dutch, etc.

If applicable in your case, a guide to your ethnic origin may be the language which you or your ancestors used on first coming to this continent, e.g., Dutch, Japanese. Note, however, that in cases where a language is used by more than one ethnic group, you should report the specific ethnic group, e.g., Austrian rather than German.

For Native Peoples, the phrase "on first coming to this continent" should be ignored.

Métis are descendants of people of mixed Indian and European ancestry who formed a distinct socio-cultural entity in the 19th century. The Métis have gone on to absorb the mixed offspring of Native Indian people and groups from all over the world.

Question 27

Report a specific denomination, if possible, even if you are not an active member of this denomination. For infants and young children, report the religion in which they are being brought up.

Question 28

If you yourself speak two or more languages at home, report the one which, in your opinion, you use most frequently. If you live alone, report the language which you use most frequently in your daily routine.

If you are deaf, report the oral or written language which you use, and write "deaf" in the space provided.

Question 29

Do not report a language studied at school unless you can conduct a conversation of some length on various topics in the language.

Question 31

Indicate the highest level of education attended according to the province where the education was obtained, and do not attempt to convert to the equivalent level of the province of present residence (if the two are different). Conversion is only required if the education was obtained outside of Canada. In this case an estimate of the equivalent level of schooling should be made according to the education system of the province in which you reside. The following guide may be helpful.

Province	Highest grade of secondary school in province
Newfoundland, Quebec	11
Nova Scotia, Prince Edward Island, New Brunswick, Manitoba, Saskatchewan, Alberta, British Columbia, Yukon, Northwest Territories	12
Ontario	13

Note that the "Versification" year of the former classical colleges of Quebec should be considered as equal to Grade 11.

If you are studying to complete a regular school grade by private instruction, correspondence or part-time (day or evening) attendance at class, report the grade or year in which these courses would be included in the regular daytime programme.

If you are attending a school for the retarded, or an institution where the classes are ungraded, estimate the grade or year level as closely as possible to the equivalent level of the school system of the province.

If you are a student in secondary school taking classes at different levels, indicate the level of the majority of your classes.

Question 32

In calculating years, indicate the number of academic years successfully completed regardless of the actual length of time it may have taken. If you attended a university which used the semester system, consider two semesters with the normal course load as equivalent to one academic year. If you received university training by correspondence, or through part-time (day or evening) study, the accumulated credits should be converted to the equivalent number of years in the regular full-time university programme.

If you received your university education in a classical college in Quebec, the following guide may be useful: "Belles-Lettres" should be considered as 1 year, "Rhétorique" as 2 years, "Philo I" as 3 years, and "Philo II" as 4 years.

If you received teacher training in a faculty of education associated or affiliated with a university, you should indicate this training at the university level here, otherwise indicate that training in Question 33.

Question 33

Include schooling in all institutions other than university, secondary or elementary schools, whether or not they require a secondary (high) school certificate for entrance, including non-university teachers' colleges, police schools, etc.

Do not include courses taken for leisure or recreation.

In calculating years, enter the number of academic years successfully completed, regardless of the actual length of time it may have taken.

If you received other non-university training by correspondence, or through part-time (day or evening) attendance, the accumulated credits should be converted to the equivalent numbers of years in the regular full-time programme.

CEGEP (general) or pre-university courses and CEGEP (professional) or career-terminal technical-vocational courses are post-secondary programmes in the province of Quebec. The latter are similar to community college programmes in other provinces.

Question 34

Secondary (high) school graduation certificate: Mark this box if you graduated from a high school where the certificate was classed as a junior or senior matriculation, general, or technical-commercial.

Trades certificate or diploma: Mark this box if you received a certificate or diploma obtained through apprenticeship (journeyman's) training and/or in-school training in trades-level vocational and pre-vocational courses at community colleges, institutes of technology and similar institutions where the minimum entrance requirement was less than secondary (high) school, junior or senior matriculation, or equivalent.

Other non-university certificate or diploma: Mark this box if you obtained a certificate or diploma (other than a trade certificate or diploma) granted by a community college (both transfer and semi-professional career programmes), CEGEP (both general and professional), institute of technology, or any other non-degree-granting educational institution.

If you obtained a teaching certificate awarded by a Provincial Department of Education at an approved institution such as a normal school or a college of education, mark this box. However, if you obtained your teacher's qualification in a faculty of education associated with a university, mark bachelor's degree(s).

University certificate or diploma: If you have a diploma, certificate or licence awarded by a professional association (e.g., in accounting, banking, insurance) on the basis of successful completion of courses conducted through or by a university, you should indicate these as either:

- university certificate or diploma **below** bachelor level, if a bachelor degree is not a normal prerequisite, or
- university certificate or diploma **above** bachelor level, if a bachelor degree is a normal prerequisite.

Question 35

Do not include attendance at courses that were taken for leisure or recreation. Report all other attendance at educational institutions, including seminars, schools of nursing, private business schools, technical institutes or colleges, public or private trade schools or vocational schools and schools for the blind or deaf which provide a general education.

"Yes, full-time" should be marked if you were taking 75% or more of the normal course load in the grade or year in which you were registered. Consider any short-term course of six weeks or less taken during the day as part-time attendance. If you attended both full-time and part-time since last September then mark only "Yes, full-time".

Question 36

Give the information for your usual residence 5 years ago even if you were away temporarily on June 1, 1976

Mark only one of the four boxes

If you marked "Different city, town, village, borough, or municipality in Canada", be sure to enter the name of your locality of residence 5 years ago, and the county (or regional municipality, regional district, etc.) and province or territory in which it is located. If the same name is used for both a city or town and a parish, township or other municipality in the county of your residence 5 years ago, indicate which is correct by specifying the type (e.g., St. Andrews town or St. Andrews parish, Granby city or Granby municipality, Kingston city or Kingston township).

Question 37

For this question, only children actually born to you should be reported. Do not include your stepchildren, foster children, or children you have adopted.

For the purposes of this question, women living in a common-law type of arrangement should consider themselves as married.

Question 38

Generally, the question on date of marriage refers to legal marriages. For statistical purposes, an exception is made in the case of a person who is currently living in a common-law relationship and has never been legally married. In this case, the respondent should enter the month and year in which the current common-law relationship was established. Persons who never married legally but lived in a common-law relationship that no longer exists, should not make any entry to this question

Question 39

If you are a homemaker, student or retired person, answer all parts of this question even if you feel they do not apply. Some homemakers, students and retired persons may have worked part- or full-time last week or looked for part- or full-time jobs, etc. If not engaged in any of the labour market activities covered by parts (a) to (e), you need only answer each part with a "None" or "No" as applicable

(a) Count all hours worked under one or more of the following conditions:

- Work for wages, salary, tips or commission, including:
 - work at piece-rates;
 - work for payment "in kind" (room, board or supplies);
 - service as a member of a religious order;
 - active duty in the Armed Forces;
 - casual work for pay such as baby-sitting, cleaning, delivering circulars, etc.
- Work in your own farm, business or professional practice, including:
 - work done to earn a profit even if the business suffered a loss;
 - time spent on the operation of the farm, business or professional practice even if no goods or services were sold or rendered;
 - fishing, trapping or hunting for profit;
 - free-lance work, dressmaking for profit, etc.;
 - work done to set up a business, farm or professional practice.

- work done to provide rooms and/or meals for roomers or boarders;
- work done as a direct distributor selling and delivering cosmetics, newspapers, etc.

Hours worked should include time spent on all tasks of preparation, maintenance and administration involved in the operation of a farm, business or professional practice.

For example, farmers should include hours spent on the maintenance of farm fences, buildings or machinery and on bookkeeping, etc., as well as on cultivating, sowing or milking. If the number of hours is not known, enter your best estimate

- Work without pay in a family business or farm run by a relative who lives in this household.

Do not include hours worked without pay as a volunteer worker.

(b) Answer "Yes, on temporary lay-off" if your lay-off has lasted 26 weeks or less and if you expect to return to the job from which you were laid off

Answer "Yes, on vacation, ill, on strike or locked out, or absent for other reasons" if you had a job or business last week from which you were absent for the whole week, with or without pay, because of vacation, illness, a strike or lock-out at your place of work or such other reasons as maternity leave, bad weather, fire, personal or family responsibilities, etc. Absence on training courses should be reported only if you are receiving wages or salary from your employer

Question 41

If you are self-employed, enter the name of the business you operate. If your business does not have a name, enter your own name.

If your wages are paid by an agency which hires out your services, enter the name of the agency.

Question 42

If you have marked "Worked at address below", give as complete an address as possible. If the full address is not known, enter as much information as you can. If you worked in an area where the same name is used for both a city, town or village, and a parish, township or other municipality, indicate which is correct by including the type (e.g., St. Andrews town or St. Andrews parish; Granby city or Granby municipality; Kingston city or Kingston township).

Away temporarily

If a member of this household is away temporarily (e.g., on a work assignment, business trip, training course, or holidays), then give his or her usual place of work.

Worked at home

If you worked in your home or if your place of work was in the same building as your place of residence, mark "Worked at home". Some examples are dressmaker, apartment building superintendent, storekeeper with a store attached to your home or a person with an office attached to your home.

No usual place of work

If you worked in a different location each day, or you travelled about during the day, see the examples below

- (e) If you went regularly to a headquarters, depot, garage, shop, etc., before actually starting work each day, then write in the address or name of the headquarters, depot, etc.
- (f) If you worked at least part of the time at a fixed address, then write in the address, building name, etc., where you most often worked.
- (g) If you went from your home to various work locations, then write in "No usual place" in the space provided for the street address.

Question 43

This two-part question is asked to ensure that there is enough information to place people who do similar kinds of work in the same occupational group. Use specific descriptions in both parts (a) and (b) of the question. In part (b) be sure to indicate if your job involves supervision or management. See examples below.

Complete response	Incomplete response
(a) Maintaining electrical equipment	(e) Maintenance
(b) Repair and maintenance of electric motors	(f) Repair work
(c) Typing, general office work	(g) Office work
(d) Typing and filing	(h) Clerical
(e) Inspecting electronic equipment	(i) Inspecting
(f) Supervising electronic equipment inspection	(j) Supervising

Question 44

Mark "working for wages, salary, tips or commission" if in the job reported you were engaged for wages and salaries, or

- you worked for piece-rates;
- you worked for payment "in kind" in non-family enterprises (e.g., as a member of a religious order);
- you worked on commission as a salesman for only one company and did not maintain an office or staff;
- you worked for various private households at such jobs as baby-sitting, cleaning, etc.

Mark "working without pay for a relative in a family farm or business" if you worked without regular money wages for a relative who is a member of the same household, at tasks which contributed to the operation of a farm or business owned and operated by the relative.

Mark "self-employed without paid help" or "self-employed with paid help" as appropriate, and indicate whether your business or farm was incorporated if you:

- operated a business or professional practice, alone or in a partnership;
- operated a farm whether you own or rent the land;
- worked on a free-lance basis or contract to do a job, e.g., architects, private duty nurses, etc.;

- provided meals and/or rooms and/or day care services in your own home for boarders, roomers or neighbours' children;
- operated a direct distributorship selling and delivering products such as cosmetics, newspapers, brushes, soap products, etc.;
- fished with your own equipment or with equipment in which you had a share.

Question 45

Count as a week any week in which you worked, even if you worked for only a few hours.

Enter 52 weeks if you were paid for a full year, even though you worked less than a full year (for example, a school teacher paid on a 12-month basis).

Question 46

Please note these important points

- Information on your *census questionnaire* is strictly confidential by law and no individual, government department or agency outside of Statistics Canada has access to it. The Statistics Act prohibits the disclosure by Statistics Canada of any information that can be related to any identifiable individual person.
- Answer every part of this question whether you were working or not. Income reported should be the *total money income* received during the calendar year 1980. If you had no income from any of the listed sources mark "No". In case of a loss, report the amount and also mark "Loss".
- If you are not sure of an answer, consult the relevant documents, e.g., income tax returns. Otherwise make your best estimate.
- If you received income from abroad, report it in Canadian dollars. However, if you immigrated to Canada after January 1, 1980, do not report income received before your arrival in Canada.
- Do not report either the family allowances received from the Federal and Provincial Governments or the child tax credits. The family allowances will be estimated for each family from the number of children shown on this questionnaire.
- Also excluded from income are: gambling gains and losses; money inherited during the year in a lump sum; capital gains or losses; receipts from the sale of property; income tax refunds; loan payments received; lump-sum settlements of insurance policies; rebates received on property taxes; and refunds of pension contributions.

(a) Total Wages and Salaries

Report total wages and salaries from all jobs before deductions for income tax, pensions, hospital insurance, etc. (Do not give take-home pay.) Include military pay and allowances.

Include tips and bonuses received during 1980. Also include all types of casual earnings whether or not T4 slips for income tax have been issued. Commissions should also be included. However, salesmen who worked for more than one company, or who maintained their own office or staff, should report in "non-farm self-employment" part (b). Also, persons baby-sitting in their own homes and newspaper boys/girls should report in part (b).

Do not include the value of taxable allowances and benefits provided by the employers, such as free lodging, free automobile use, bursaries, travelling expenses of spouse, etc.

Owners of an unincorporated business or farm should report all the income from that business or farm as self-employment in part (b) or (c)

(b) Net Non-farm Self-employment Income

Give an amount if you owned and operated a non-farm, unincorporated business or professional practice during 1980, whether by yourself or in partnership. In case of a partnership, report only your share of the net income. Receipts from incorporated businesses should be reported in "wages" and/or "investment income".

Report net income (gross receipts minus expenses of operation such as wages, rents, depreciation, etc.). Do not subtract personal deductions such as income tax and pensions.

Persons baby-sitting in their own homes, operators of direct distributorships such as selling and delivering cosmetics, newspapers, etc., and odd jobbers who obtained by themselves contracts or agreements to do jobs should report their income in this part.

In case of a loss, report the amount and also mark "Loss".

(c) Net Farm Self-employment Income

Give an amount only if you operated a farm in 1980 by yourself or in partnership. In case of partnership, report only your share of net income.

Give your net income (gross receipts from farm sales minus depreciation and costs of operation). Cash advances should be included in gross receipts for the year in which they are received. Include also government supplementary payments but exclude the value of income "in kind".

Answer the question even if you employed a hired manager to run your farm and deduct the manager's salary as expenses. If you rent out your farm, report your rent receipts in "investment income" part (g). Similarly, income from incorporated farms should be reported in "wages" and/or "investment income".

In case of a loss, report the amount and also mark "Loss".

Agricultural operations include production of field crops, vegetables, fruits, greenhouse and nursery products and seeds, maple products, raising poultry and livestock, production of animal products such as eggs, milk and wool, and fur farming and beekeeping.

(d) Old Age Security Pension and Guaranteed Income Supplement and Benefits from Canada or Quebec Pension Plan

Report payments to persons 65 years and over and to 60 to 64-year-old spouses or widows of Old Age Security Pension recipients (Spouse's Allowance) from federal government only.

Also report benefits received under the Canada or Quebec Pension Plans, e.g. retirement pensions, survivors' benefits, disability pensions. Please do not report your contributions to the Plan but the benefits from it. Do not include lump-sum benefits.

Provincial income supplements are to be reported in part (f). Retirement pensions of civil servants, RCMP and military personnel are to be reported in part (h).

(e) Benefits from Unemployment Insurance

Report total unemployment insurance benefits, before income tax deductions. Include benefits for sickness, maternity retraining and retirement received under the Federal Unemployment Insurance scheme.

(f) Other Income from Government Sources Including Provincial Income Supplements and Social Assistance

Report payments received from provincial and municipal governments by persons in need, such as assistance to needy mothers, to the blind, as well as other cash payments to persons in need.

Include provincial income supplements.

Include here all other transfer payments such as Canada Manpower training and mobility allowances, veterans' pensions, workers' compensation, etc.

Do not include family allowances and child tax credits.

Retirement pensions to career military personnel, civil servants, etc., are to be reported in part (h).

(g) Dividends, Interest from Bonds and Deposits, and Other Investment Income

Report actual amount of dividends received, not the taxable amount for dividends received from Canadian and foreign corporate stocks.

Report interest from deposits in banks, trust companies, co-operatives, credit unions, caisses populaires, etc., as well as bond and debenture interest.

Also include interest received from abroad.

Also report here net rents from real estate (including farm land), mortgage and loan interest received, regular income from an estate or trust fund, and interest from insurance policies.

If this total is a loss, write the amount and also mark "Loss".

(h) Retirement Pensions, Superannuation and Annuities, and Other Money Income

Report here any income you received as a result of previous employment of yourself or a deceased relative.

Include pensions to retired RCMP, career military or Civil Service employees and all annuities regardless of who purchased them. Also include here all other regular income not covered in the questions above.

Examples are:

- alimony
- child support
- periodic support from persons not in the household
- net income from roomers and boarders
- income from abroad (e.g. pensions) except dividends and interest which should go into (g)
- non-refundable scholarships and bursaries

Do not include:

- family allowances and child tax credits
- cash refunds of pension fund contributions
- lump-sum death benefits or any other one time lump-sum payment

ANNEXE D. 1986 CENSUS OF AGRICULTURE - QUESTIONNAIRE



FORM 6

OFFICE USE				CC
CENSUS REPRESENTATIVE USE				
Farm Operator's Residence				
PROV. 001	FED No. 002	EA No. 003	VN	
Hhd. No. 004	Agri. Quest. No. 005	Head Office Use 006		
Farm Headquarters				
PROV. 007	FED No. 008	EA No. 009	VN	



1986 Census of Agriculture

Francophones:

Si vous désirez un questionnaire en français, demandez à la téléphoniste de composer ZENITH 0-1986; vous serez alors mis en communication, sans frais, avec le bureau régional le plus près.

If you wish to complete a French questionnaire, call the long distance operator and ask for ZENITH 0-1986 and you will be connected to the nearest Regional Office, without charge.

CONFIDENTIAL when completed

Only persons sworn to secrecy under the Statistics Act will have access to your completed questionnaire. Information derived from this questionnaire will be treated in accordance with the confidentiality provisions of the Act. Persons who have been sworn to secrecy under the Act are subject to prosecution if they violate these provisions.

Legal Requirement

The information sought in this questionnaire is collected under the authority of the Statistics Act. Everyone is required to provide this information.

INSTRUCTIONS

- Complete this questionnaire if you operate a farm, ranch or other agricultural holding (feedlots, greenhouses, nurseries, institutional farms, mushroom houses and fur farms) with sales of agricultural products during the past 12 months of \$250 or more.
- Agricultural products include any of the following:
 - livestock and poultry
 - dairy products and eggs
 - field crops
 - fruits and vegetables
 - mushrooms, greenhouse and nursery products, and sod
 - fur bearing animals
 - honey and beeswax
 - maple products
- Use your records, if possible. Otherwise, enter your best estimate.
- In cases where records are not kept on a calendar year basis, expenses, sales, etc. should be reported for the last complete fiscal year.
- Do not report fractions except where space has been provided.
- Complete only one questionnaire for each partnership operation.
- If you require additional questionnaires or assistance in completing this questionnaire, call the long distance operator and ask for ZENITH 0-1986 and you will be connected to the nearest Regional Office without charge.

I - OPERATOR, JUNE 3, 1986

- The operator is the person responsible for the day-to-day decisions made in the operation of the holding.
- If the holding is operated as a partnership, enter the name and address of one of the partners (Report other partner(s) in Question 4)
- Please be sure only one agricultural questionnaire is completed per holding.

1. Name and mailing address of the operator (Owner, tenant or hired manager)

010	Family or last name (print)	
	Usual first name and initials (print)	
011	P. O. Box No., R.R. No., or name of road or street	
012	Name of post office	
013	Postal Code	
014	Area Code	Telephone Number
015	Farm name (if applicable)	
016		

OFFICE USE

017	Doc. No.	018	Pers. No.	019	Day	020	Month	021	Year	312	
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II - RESIDENCE, JUNE 3, 1986

2. How many months did you (the operator) live on this holding during the past 12 months?

(Mark an "X" in the appropriate box.)

- | | | |
|----------------------------------|-----|---|
| (a) 9-12 months | 022 | 1 |
| (b) 5-8 months | 022 | 2 |
| (c) 4 months or less | 022 | 3 |
| (d) Did not live on this holding | 022 | 4 |

3. Did you operate this holding as of June 3, 1985 (one year ago)?

- | | | |
|-----|-----|---|
| YES | 023 | 1 |
| NO | 023 | 2 |

III - TYPE OF ORGANIZATION, JUNE 3, 1986

4. Which of the following best describes this holding?

(Mark an "X" in the appropriate box.)

- | | | |
|--|-----|---|
| (a) INDIVIDUAL OR FAMILY HOLDING (Do not include partnerships and corporations) | 024 | 1 |
|--|-----|---|

PARTNERSHIP:

- | | | |
|--|-----|---|
| (b) with a written agreement | 024 | 2 |
| (c) with no written agreement (a verbal partnership) | 024 | 3 |

Enter other partner(s) name(s) in the spaces provided below. (Use comments section if more space is required)

025 PARTNER

026 PARTNER

027 PARTNER

028 PARTNER

CORPORATION (A LEGALLY CONSTITUTED COMPANY):

- | | | |
|--|-----|---|
| (d) with the majority of the shares owned by you and your family | 024 | 4 |
| (e) with the majority of the shares owned by other person(s) or business | 024 | 5 |

Enter corporation name in the space provided below.

029 CORPORATION NAME

OTHER TYPES OF ORGANIZATION:

- | | | |
|---|-----|---|
| (f) Institution (e.g. Research Station, university farm, prison farm, etc.) | 024 | 6 |
| (g) Community Pasture, co-operative grazing association or grazing reserve | 024 | 7 |
| (h) Other (e.g. Hutterite Colony, Trust or Estate, etc.) Specify | 024 | 8 |

If you have indicated more than one box to describe your organization, please explain in the comments section below.

COMMENTS

500	1
-----	---

5. THE LAND AREA FIGURES IN THIS QUESTIONNAIRE WILL BE REPORTED IN: (mark one box only)

ACRES	030		1
OR			
HECTARES	031		1
OR			
ARPENTS	032		1
(QUEBEC ONLY)			

CONVERSION FACTORS IF REQUIRED

1 acre = 0.40 hectares

1 acre = 1.18 arpents

1 hectare = 2.5 acres

1 hectare = 2.9 arpents

1 arpent = 0.85 acres

1 arpent = 0.34 hectares

IV - LOCATION: AREA OWNED, RENTED OR LEASED, JUNE 3, 1986

6. Location

Include all the land you **operate** including cropland, grazing and pasture land, summerfallow, woodland and wasteland

- List each lot, section or part separately.

Include all land operated, whether owned, rented or leased from others

Do not include land you rent or lease to others.

- List on the top line the parcel of land on which the headquarters (main buildings or main gate) is located.
- If more space is required, please add a separate list or continue in the comments section.

[illegible]

V - AREA OF FIELD CROPS			
* Report the total area of the various crops seeded or to be seeded for harvest in 1986, even if they were sown or planted in an earlier year			
GRAINS	Area	Oilseeds	Area
	037	29. Canola (Rapeseed)	056
10. Hard red spring wheat	038	30. Flaxseed	057
11. Durum wheat	039	31. Soybeans	058
12. Utility wheat	040	32. Sunflowers	059
13. Soft white spring wheat	041		
14. Other semi-dwarf spring wheats (e.g. HY320)	042	OTHER CROPS	
Specify	043	33. Potatoes grown for sale	060
15. Winter wheat (remaining for harvest in 1986)	044	34. Mustard seed	061
16. Oats for grain (Report oats to be cut for green feed, hay or silage in Question 25)	045	35. White beans	062
17. Barley for grain (Report barley to be cut for green feed, hay or silage in Question 26)	046	36. Fababeans for beans (Report silage in Question 27)	063
18. Mixed grains for grain (two or more greens sown together)	047	37. Other dry beans (e.g. yellow eye, kidney, etc.)	064
19. Corn for grain (Report corn for silage in Question 23. Report sweet corn in Question 69)	048	38. Dry field peas (Report canning peas in Question 75)	065
20. Fall rye (remaining for harvest in 1986)	049	39. Tobacco	066
21. Spring rye		40. Lentils	067
22. Buckwheat		41. Sugar beets for sugar	068
	050	42. Millet for grain	069
HAY AND FODDER CROPS	051	43. Trifoliate	070
23. Corn for silage	052	44. Canary seed (grown for bird seed)	071
24. All tame hay cut or to be cut for hay or silage	053	45. Root crops for feed	072
25. Oats cut or to be cut for green feed, hay or silage	054	46. Safflower	073
26. Barley cut or to be cut for green feed, hay or silage		47. Caraway seed	074
27. Other fodder crops cut or to be cut for green feed, hay or silage (e.g. sudan, sorghum, etc.)	055	48. Forage seed (to be harvested in 1986 for seed)	075
Specify		49. Other field crops (e.g. coriander, peanuts, etc.)	076
28. TOTAL area of grains, hay and fodder crops (Total of Questions 10 to 27)		Specify	077
		50. TOTAL area of oilseeds and other crops (Total of Questions 29 to 49)	

VI - FRUITS, VEGETABLES, SOD AND NURSERY PRODUCTS			
51. Do you grow any tree fruits, cultivated berries, grapes, vegetables, sod or nursery products for sale?	YES	078	1 Answer Questions 52 to 97
	NO	078	2 Skip to Question 98
TREE FRUITS	Number of trees on June 3, 1986		Area on June 3, 1986
* Do not include trees that are abandoned	Bearing Non-bearing		
* Report the area to the nearest tenth (e.g. 5 1/2)			
52. Apple	079	080	081
53. Pear	082	083	084
54. Plum and prune	085	086	087
55. Cherry (sweet)	088	089	090
56. Cherry (sour)	091	092	093
57. Peach	094	095	096
58. Apricot	097	098	099
59. Other tree fruits (e.g., figs, nuts, nectarines, etc.)	100	101	102
Specify			103
60. TOTAL area of tree fruits			

VI - FRUITS, VEGETABLES, SOD AND NURSERY PRODUCTS (Concluded)																																		
CULTIVATED BERRIES AND GRAPES (grown for sale) • Report the area to the nearest tenth (e.g. 5 %)																																		
61. Strawberries 62. Raspberries 63. Grapes 64. Blueberries (cultivated high and low bush) 65. Cranberries 66. Other cultivated berries (e.g., saskatoons, loganberries, currants, etc.) Specify 67. TOTAL area of cultivated berries and grapes	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Total area under cultivation in 1986</th> <th style="text-align: center;">Area harvested or to be harvested in 1986</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">104</td><td style="text-align: center;">105</td></tr> <tr><td style="text-align: center;">106</td><td style="text-align: center;">107</td></tr> <tr><td style="text-align: center;">108</td><td style="text-align: center;">109</td></tr> <tr><td style="text-align: center;">110</td><td style="text-align: center;">111</td></tr> <tr><td style="text-align: center;">112</td><td style="text-align: center;">113</td></tr> <tr><td style="text-align: center;">114</td><td style="text-align: center;">115</td></tr> <tr><td style="text-align: center;">116</td><td style="text-align: center;">116</td></tr> </tbody> </table>	Total area under cultivation in 1986	Area harvested or to be harvested in 1986	104	105	106	107	108	109	110	111	112	113	114	115	116	116																	
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106	107																																	
108	109																																	
110	111																																	
112	113																																	
114	115																																	
116	116																																	
VEGETABLES (grown for sale) • Do not include greenhouse products. These should be reported in Question 106. • Report the area to the nearest tenth (e.g. %)																																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Asparagus harvested or to be harvested in 1986</th> <th style="text-align: center;">Total area under cultivation in 1986</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">117</td><td style="text-align: center;">118</td></tr> <tr><td style="text-align: center;">119</td><td style="text-align: center;">120</td></tr> <tr><td style="text-align: center;">121</td><td style="text-align: center;">122</td></tr> <tr><td style="text-align: center;">123</td><td style="text-align: center;">124</td></tr> <tr><td style="text-align: center;">125</td><td style="text-align: center;">126</td></tr> <tr><td style="text-align: center;">127</td><td style="text-align: center;">128</td></tr> <tr><td style="text-align: center;">129</td><td style="text-align: center;">130</td></tr> <tr><td style="text-align: center;">131</td><td style="text-align: center;">132</td></tr> </tbody> </table> 68. Asparagus 69. Corn, sweet 70. Tomatoes 71. Cucumbers 72. Cabbage 73. Beans (yellow (wax) or green) 74. Carrots 75. Green peas (Report dry field peas in Question 38) 76. Beets 77. Cauliflower 78. Onions (dry) 79. Peppers 80. Rutabagas (turnips) 81. Lettuce	Asparagus harvested or to be harvested in 1986	Total area under cultivation in 1986	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Total area under cultivation in 1986</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">132</td></tr> <tr><td style="text-align: center;">133</td></tr> <tr><td style="text-align: center;">134</td></tr> <tr><td style="text-align: center;">135</td></tr> <tr><td style="text-align: center;">136</td></tr> <tr><td style="text-align: center;">137</td></tr> <tr><td style="text-align: center;">138</td></tr> <tr><td style="text-align: center;">139</td></tr> <tr><td style="text-align: center;">140</td></tr> <tr><td style="text-align: center;">141</td></tr> <tr><td style="text-align: center;">142</td></tr> <tr><td style="text-align: center;">143</td></tr> <tr><td style="text-align: center;">144</td></tr> <tr><td style="text-align: center;">145</td></tr> </tbody> </table> 82. Broccoli 83. Squash 84. Zucchini 85. Pumpkins 86. Green onions (shallots) 87. Radishes 88. Brussels sprouts 89. Rhubarb 90. Parsnips 91. Celery 92. Spinach 93. Cantaloupes and melons 94. Other vegetables Specify 95. TOTAL area of vegetables under cultivation (Total of Questions 68 to 94)	Total area under cultivation in 1986	132	133	134	135	136	137	138	139	140	141	142	143	144	145
Asparagus harvested or to be harvested in 1986	Total area under cultivation in 1986																																	
117	118																																	
119	120																																	
121	122																																	
123	124																																	
125	126																																	
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SOD AND NURSERY PRODUCTS (grown for sale) • Include total area under cultivation.																																		
96. Sod grown for sale 97. Nursery products (include area of cut flowers, bulbs, shrubs, trees, vines, ornamentals, etc. grown out of donors)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Area</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">146</td></tr> <tr><td style="text-align: center;">147</td></tr> </tbody> </table>	Area	146	147																														
Area																																		
146																																		
147																																		
VII - SUMMARY OF LAND IN 1986																																		
LAND IN CROPS 98. TOTAL of the areas reported in Questions 28, 50, 60, 67, 95, 96 and 97 OTHER LAND 99. Summerfallow (Land from which no crop will be harvested in 1986, but which instead will be cultivated, worked or sprayed to control weeds or conserve moisture. Do not include idle land which has not been worked or sprayed for more than one year.) 100. Improved land for pasture or grazing (improved by seeding, draining, irrigating, fertilizing, or brush or weed control. Do not include areas to be cut for hay, silage or seed) 101. Other improved land (farm buildings, barnyards, lanes, home gardens, greenhouses, mushroom houses, improved idle land, etc.) 102. Unimproved land for pasture, grazing or hay (include native pasture, native hay, rangeland, grazable bush, etc.) 103. Woodland (woodlots, Christmas tree lots, sugar bush, tree wind breaks) 104. All other unimproved land (include bogs, marshes, wasteland and all other non-productive areas) 105. TOTAL land area (Total of Questions 98 to 104) (This total must equal the total area of the holding or operation reported in Question 7.)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Area</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">148</td></tr> <tr><td style="text-align: center;">149</td></tr> <tr><td style="text-align: center;">150</td></tr> <tr><td style="text-align: center;">151</td></tr> <tr><td style="text-align: center;">152</td></tr> <tr><td style="text-align: center;">153</td></tr> <tr><td style="text-align: center;">154</td></tr> <tr><td style="text-align: center;">155</td></tr> </tbody> </table>	Area	148	149	150	151	152	153	154	155																								
Area																																		
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153																																		
154																																		
155																																		

VIII - GREENHOUSES AND MUSHROOM HOUSES, JUNE 3, 1986											
<p>106. Are you growing any greenhouse products or mushrooms for sale?</p> <p>107. Are you reporting in square feet or square metres?</p> <p style="text-align: center;">Please mark an "X" in the appropriate box</p>	<p>YES</p> <p>NO</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">156</td> <td style="width: 20px; text-align: center;">1</td> </tr> <tr> <td style="width: 20px; text-align: center;">156</td> <td style="width: 20px; text-align: center;">2</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">157</td> <td style="width: 20px; text-align: center;">1</td> </tr> <tr> <td style="width: 20px; text-align: center;">157</td> <td style="width: 20px; text-align: center;">2</td> </tr> </table>	156	1	156	2	157	1	157	2	<p>Answer Questions 107 to 109</p> <p>Skip to Question 110</p>
156	1										
156	2										
157	1										
157	2										
<p>Greenhouses</p> <p>108. Area on June 3, 1986 under glass, plastic or other protection for each of the following:</p> <p>(a) Flowers (e.g. cut flowers, bedding and potted plants, etc.)</p> <p>(b) Vegetables (e.g. cucumbers, tomatoes, etc.)</p> <p>(c) Vegetable transplants for sale</p> <p>(d) Other (e.g. tree seedlings) Specify</p>											
			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center;">Area</th> </tr> <tr> <td style="text-align: center;">158</td> </tr> <tr> <td style="text-align: center;">159</td> </tr> <tr> <td style="text-align: center;">160</td> </tr> <tr> <td style="text-align: center;">161</td> </tr> </table>	Area	158	159	160	161			
Area											
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Area											
162											
<p>Mushroom Houses</p> <p>109. TOTAL growing area for mushrooms on June 3, 1986</p>											
IX - POULTRY											
<p>• Include all poultry on this holding, regardless of ownership.</p> <p>• Include production for use at home.</p> <p>• Do not include poultry owned by you but kept on a holding operated by someone else</p>											
<p>PART 1 - POULTRY NUMBERS</p> <p>110. Are there any poultry on this holding?</p> <p>NO</p>											
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">163</td> <td style="width: 20px; text-align: center;">1</td> </tr> <tr> <td style="width: 20px; text-align: center;">163</td> <td style="width: 20px; text-align: center;">2</td> </tr> </table>	163	1	163	2	<p>Answer Questions 111 to 117</p> <p>Skip to Question 118</p>				
163	1										
163	2										
<p>HENS AND CHICKENS</p> <p>111. Pullets and pullet chicks, under 20 weeks, intended for laying</p> <p>112. Hens and pullets, 20 weeks and over, kept for laying</p> <p>113. All other chickens (roosters, chicks, roasters, broilers, fryers, etc.)</p> <p>114. TOTAL chickens (Total number reported above)</p> <p>115. How many of the hens and pullets, 20 weeks and over (Question 112) produce fertilized eggs for a hatchery? (i.e. hatchery supply flock)</p>											
			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center;">Number June 3, 1986</th> </tr> <tr> <td style="text-align: center;">164</td> </tr> <tr> <td style="text-align: center;">165</td> </tr> <tr> <td style="text-align: center;">166</td> </tr> <tr> <td style="text-align: center;">167</td> </tr> <tr> <td style="text-align: center;">168</td> </tr> <tr> <td style="text-align: center;">169</td> </tr> <tr> <td style="text-align: center;">170</td> </tr> </table>	Number June 3, 1986	164	165	166	167	168	169	170
Number June 3, 1986											
164											
165											
166											
167											
168											
169											
170											
<p>OTHER POULTRY</p> <p>116. Turkeys (all ages)</p> <p>117. Other poultry (e.g. geese, ducks, pheasants, guinea fowl, etc.) Specify</p>											
<p>PART 2 - POULTRY PRODUCTION</p> <p>118. Were there any turkeys, chickens, or chicken eggs produced on this holding in 1985?</p> <p>119. TOTAL chicken egg production during 1985</p> <p>120. TOTAL chicken production during 1985 (include roosters, roasters, broilers, fryers, and spent hens)</p> <p>121. TOTAL turkey production during 1985</p>			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center;">Total Production during 1985 (include all market- ings and home use)</th> </tr> <tr> <td style="text-align: center;">172 Dozens of eggs</td> </tr> <tr> <td style="text-align: center;">173 Number of birds</td> </tr> <tr> <td style="text-align: center;">174 Number of birds</td> </tr> </table>	Total Production during 1985 (include all market- ings and home use)	172 Dozens of eggs	173 Number of birds	174 Number of birds				
Total Production during 1985 (include all market- ings and home use)											
172 Dozens of eggs											
173 Number of birds											
174 Number of birds											
COMMENTS											
<div style="border: 1px solid black; width: 100%; height: 100%;"></div>			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">501</td> <td style="width: 20px; text-align: center;">1</td> </tr> </table>	501	1						
501	1										

X - LIVESTOCK, JUNE 3, 1986

Include all animals on this holding, regardless of ownership.

- Include any animals owned by you but pastured on a community pasture, grazing co-op or public land.
- Do not include animals owned by you but kept on a farm, ranch or feedlot operated by someone else.

PART 1 - CATTLE AND CALVES

122. Are there any cattle or calves on this holding?

YES	175	1
NO	175	2

Answer Questions 123 to 129

Skip to Question 130

123. Bulls, 1 year and over

124. Cows (include heifers which have calved):

(a) mainly for dairy purposes

(b) mainly for beef purposes

125. Heifers, 1 year and over (which have never calved):

(a) raised for dairy herd replacement

(b) raised for beef herd replacement

(c) raised for slaughter or as feeders

126. Steers, 1 year and over

127. Calves, under 1 year

128. TOTAL cattle and calves (Total number reported above)

129. Of the cattle and calves reported above how many are purebred registered animals?

Number
176
177
178
179
180
181
182
183
184
185

PART 2 - PIGS

130. Are there any pigs on this holding?

YES	186	1
NO	186	2

Answer Questions 131 to 135

Skip to Question 136

131. Boars, 6 months and over

132. Sows for breeding and bred gilts

133. All other pigs:

(a) Under 45 lbs (20 kg) (include suckling pigs)

(b) 45 to 130 lbs (20 to 60 kg)

(c) Over 130 lbs (60 kg)

134. TOTAL pigs (Total number reported above)

135. Of the pigs reported above how many are purebred registered animals?

Number
187
188
189
190
191
192
193

PART 3 - SHEEP AND LAMBS

136. Are there any sheep or lambs on this holding?

YES	194	1
NO	194	2

Answer Questions 137 to 141

Skip to Question 142

137. Rams, 1 year and over

138. Ewes and wethers, 1 year and over

139. Lambs, under 1 year

140. TOTAL sheep and lambs (Total number reported above)

141. Of the sheep and lambs reported above how many are purebred registered animals?

Number
195
196
197
198
199

PART 4 - OTHER LIVESTOCK

142. Are there any other livestock on this holding?

YES	200	1
NO	200	2

Answer Questions 143 to 149

Skip to Question 150

143. Horses and ponies (all ages)

144. Goats

145. Rabbits

146. Mink

147. Fox

148. Colonies of bees

149. Other livestock (e.g. chinchillas, donkeys, etc.) Specify

Number
201
202
203
204
205
206
207

XI - COMMERCIAL FERTILIZER USE, 1985

150. Was any commercial fertilizer applied on the land you operated in 1985?

YES	208	1
NO	208	2

Answer Questions 151 to 152

Skip to Question 153

• Include only commercial fertilizers.

• Do not include manure or lime.

• Report the area only once, no matter how many applications were made.

Area Fertilized

209

151. TOTAL area fertilized in 1985 (include areas under crops, hay, pasture, etc.)

Tonnes
(2200 lbs = 1
metric tonne)

210

As

211

As

212

As

213

As

152. How many metric tonnes of the following forms or types of fertilizer were applied on this land in 1985?

(a) Dry granular (bagged and bulk)

(b) Pressurized liquid or gas (including anhydrous ammonia)

(c) Non pressurized liquid

(d) Suspensions (a fluid requiring agitation)

XII - SPRAYING AND DUSTING, 1985

153. Was any chemical spray or dust applied to the land you operated in 1985?

YES	214	1
NO	214	2

Answer Question 154

Skip to Question 155

• Include herbicides, insecticides and fungicides.

• Include all areas sprayed or dusted, whether cropland, pasture or summerfallow, etc.

• Do not include seed treatments.

Area

215

216

154. Land or crop area sprayed or dusted in 1985.

(a) for control of weeds and brush (Report the area only once, no matter how many applications were made.)

(b) for control of insects and disease (Report the area only once, no matter how many applications were made.)

XIII - IRRIGATION, 1985

155. In 1985, was any of the land you operate irrigated by any controlled means?

YES	217	1
NO	217	2

Answer Questions 156 to 157

Skip to Question 158

• Do not include ditches and equipment used exclusively for drainage.

• Report the area only once, no matter how many applications were made.

156. In 1985, how much land was irrigated using the following systems?

(a) Flood

(b) Hand Move

(c) Wheelroll

(d) Pivot

(e) Volume Gun or Giant Gun

(f) All other means (e.g. solid sets, etc.)

Specify

(g) TOTAL area irrigated

Area Irrigated

218

219

220

221

222

223

224

157. Indicate the sources of your irrigation water:

(a) Irrigation District or Works

(b) River, Stream or Creek

(c) Lake or Reservoir

(d) Groundwater (wells or springs)

(e) Other

Specify

225

1

226

1

227

1

228

1

229

1

XIV - SUBSURFACE DRAINAGE (TILE)

158. Is there a subsurface drainage system on the land you operate?

YES	230	1
NO	230	2

Answer Question 159

Skip to Question 160

• Include systematic, random and spot systems regardless of when installed

Area Under
Drainage

231

159. How much land is drained by a subsurface drainage system?

XV - FARM VEHICLES, MACHINERY AND EQUIPMENT, JUNE 3, 1986

- Report only vehicles, machinery and equipment used in the farm business.
- Report all vehicles, machinery and equipment on the land you operated on June 3, 1986, regardless of ownership.
- If equipment is owned on a share basis, report it only if it is located on this holding.
- Do not include equipment no longer used in the farm business.
- "Present market value" is the amount this machine or piece of equipment would bring at an auction sale in your district.

	Two Wheel Drive	Four Wheel Drive	Total Present Market Value (dollars only)
160. Tractors: (e) Under 20 p.t.o. hp. (15 kw) (including garden tractors)			
	232	233	234
			00
(b) 20-49 p.t.o. hp. (15-37 kw)	235	236	237
			00
(c) 50-99 p.t.o. hp. (38-74 kw)	238	239	240
			00
(d) 100-149 p.t.o. hp. (75-111 kw)	241	242	243
			00
(e) 150-224 p.t.o. hp. (112-187 kw)	244	245	246
			00
(f) Over 224 p.t.o. hp. (187 kw)	247	248	249
			00
161. Farm Trucks (include only trucks used in the farm business)			
	Total Number		
(a) Pick-ups and vans	250	251	00
(b) Other single axle	252	253	00
(c) Other (tandem axle, tag, etc.)	254	255	00
	256	257	00
162. Cereals and station wagons			
	258	259	00
163. Grain combines: (a) Self-propelled			
	260	261	00
(b) Pull type	262	263	00
164. Swathers (report mower-conditioners in Question 166): (a) Self-propelled			
	264	265	00
(b) Pull type	266	267	00
165. Balers (report field stack makers in Question 170): (a) making bales less than 200 lbs (90 kg)			
	268	269	00
(b) making bales 200 lbs (90 kg) or more	270	271	00
166. Mower-conditioners			
	272	273	00
167. Forage crop harvesters			
	274	275	00
168. Grain dryers			
	276	277	00
169. Potato harvesters			
		278	00
170. All other farm machinery and equipment			
(Tillage and planting machinery; tractor attachments, mowers; spraying equipment; threshers; specialized harvesters, wagons, shop tools; hand tools; irrigation equipment; field stock makers; grain, forage and manure handling machinery, dairy equipment, packaging and handling machinery, etc.)			
		279	00
171. TOTAL value of all farm vehicles, machinery and equipment (Total of values reported in Questions 160 to 170)			
172. Do you have a computer on your farm holding used principally in managing your farm business?			
YES 280 1			
NO 280 2			

XVI - MARKET VALUE OF LAND AND BUILDINGS, JUNE 3, 1986

- Include the value of the farm dwellings and the value of any land or buildings rented or leased from the government or others.
- Do not include the value of any land, buildings or farm dwellings rented or leased to others.

	(dollars only)
173. What is your estimate of the present market value of the land and buildings you operate?	281
	00

XVII - FARM BUSINESS EXPENSES, 1985 (calendar year)

- The following questions deal with **farm operating expenses during 1985**, whether already paid or to be paid by you or others.
- Your account books or your completed income tax form, if available, would be useful in completing this section.
- In cases where records are not kept on a calendar year basis, expenses should be reported for the last complete fiscal year.
- Do not include costs of products purchased for resale.

	Amount (dollars only)	
174. Rent or leasing expenses for agricultural land and buildings rented or leased from governments and others:	282	00
(a) Cash basis (Include community pasture and grazing fees)	283	00
(b) Share rent or rent-in-kind (estimated dollar value)	284	00
175. Cash wages for hired farm labour (Include family wages, and contributions made on behalf of all employees for C.P.P., Q.P.P., Unemployment Insurance and Worker's Compensation, do not include wages paid for housework. Report custom work and contract work in Question 181):	285	00
(a) Cash wages paid to family members	286	00
(b) Cash wages paid to non-family members	287	00
176. Interest paid on farm loans, mortgages and credit from suppliers (Do not report payment of principal or amount of debt outstanding)	288	00
177. Machinery expenses (farm business share) for operating cars, trucks and farm machinery:	289	00
(a) Fuel, oil and lubricants before rebates are received (Report fuel for heating and crop drying in Question 183)	290	00
(b) Repairs, maintenance, license, registration and insurance (Include parts and labour costs)	291	00
178. Crop expenses:	292	00
(a) Fertilizer and lime purchases (Include custom spreading costs if included in the purchase price)	293	00
(b) Chemicals to control all types of weeds, plants, insects, rodents, etc. (Include herbicides, insecticides, fungicides and other pesticides)	294	00
(c) Seed and seedling purchases (Include seed treatment and cleaning costs if included in the purchase price, do not include the value of homegrown seed and seed bought for resale)	295	00
179. Livestock expenses:	296	00
(a) Feed and supplement purchases (Include hay or straw purchased for feed, do not include the value of homegrown feed)	297	00
(b) Livestock and poultry purchases	298	00
(c) Veterinary services, medicines and artificial insemination	299	00
180. Small containers, twine and wire (Include baskets, sacks, bags, egg cartons, flower pots, baler and binder twine, baling wire, etc.)	300	00
181. Custom work, contract work and machine rental (Include combining, trucking, grain drying, feedlot cleaning, etc.; do not include capital expenses where benefits are spread over many years such as land clearing)	301	00
182. Electricity (Include farm business share of house expenses; do not include installation costs)	302	00
183. Fuel for heating and crop drying (Include farm business share of house expenses; do not include fuel expenses for operating motor vehicles and farm machinery; do not include installation costs)	303	00
184. All other farm business operating expenses (Include repairs and maintenance to farm buildings and fences, taxes, telephone, irrigation levies, crop and property insurance, legal and accounting fees, etc.; do not include depreciation or capital cost allowance.)	304	00
Specify _____	305	00
185. TOTAL farm business operating expenses (Total of Questions 174 to 184)	306	00
186. Have any of the above livestock expense items reported in Question 179 been supplied and paid for by a company or co-operative with which you have a production contract?	YES 307 1	NO 308 2

XVIII - HIRED AGRICULTURAL LABOUR, 1985						
<p>187. Did you employ hired agricultural labour in 1985?</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>YES <input type="text" value="302"/> <input type="text" value="1"/></p> <p>NO <input type="text" value="302"/> <input type="text" value="2"/></p> </div> <div> <p>Answer Question 188</p> <p>Skip to Question 189</p> </div> </div> <ul style="list-style-type: none"> • Include only persons 15 years of age and over. • Do not include housework or custom work and other non-agricultural work. • Calculate and record the total number of weeks of labour during 1985. For example 5 people hired for one week are reported as 5 weeks of labour. 	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center; padding: 2px;">Total weeks</th> </tr> <tr> <td style="text-align: center; padding: 2px;">303</td> </tr> <tr> <td style="text-align: center; padding: 2px;">304</td> </tr> </table>	Total weeks	303	304		
Total weeks						
303						
304						
<p>188. TOTAL weeks of paid labour during 1985:</p> <p>(a) hired on a year round basis</p> <p>(b) hired on a seasonal or temporary basis</p>						
XIX - FOREST PRODUCTS AND MAPLE TAPPINGS						
<p>189. Did you harvest any forest products for sale or tap any maple trees?</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>YES <input type="text" value="305"/> <input type="text" value="1"/></p> <p>NO <input type="text" value="305"/> <input type="text" value="2"/></p> </div> <div> <p>Answer Questions 190 to 191</p> <p>Skip to Question 192</p> </div> </div>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center; padding: 2px;">Value (dollars only)</th> </tr> <tr> <td style="text-align: center; padding: 2px;">306</td> </tr> <tr> <td style="text-align: center; padding: 2px;">00</td> </tr> <tr> <th style="text-align: center; padding: 2px;">Number</th> </tr> <tr> <td style="text-align: center; padding: 2px;">307</td> </tr> </table>	Value (dollars only)	306	00	Number	307
Value (dollars only)						
306						
00						
Number						
307						
<p>190. Value of forest products sold in 1985. (Include Christmas trees, fuelwood, pulpwood, logs, fence posts, plings, etc. Do not include maple products)</p>						
<p>191. Number of taps made on maple trees in the spring of 1986</p>						
XX - VALUE OF AGRICULTURAL PRODUCTS SOLD DURING 1985						
<p>In cases where records are not kept on a calendar year basis, sales should be reported for the last complete fiscal year.</p> <p>Include:</p> <ul style="list-style-type: none"> • sales of all agricultural products (See page 1, instruction 2). • the value of the landlord's share of products sold (share rent). • any Canadian Wheat Board payments received during 1985 regardless of the crop year to which they apply • cash advances for stored crops, patronage dividends, crop insurance, stabilization and deficiency payments. • any Marketing Board and/or Agency payments received during 1985. • direct sales — roadside stands, farmers' markets, pick your own, etc. • income from custom work and machine hire. <p>Do not include:</p> <ul style="list-style-type: none"> • sales of capital items (e.g. land, buildings or machinery) • sales of products received from land rented or leased to others • value of forest products sold • products bought for resale. 						
<p>192. TOTAL (gross) value of agricultural products sold from this operation during 1985</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center; padding: 2px;">Value (dollars only)</th> </tr> <tr> <td style="text-align: center; padding: 2px;">308</td> </tr> <tr> <td style="text-align: center; padding: 2px;">00</td> </tr> </table>	Value (dollars only)	308	00		
Value (dollars only)						
308						
00						
XXI - OFF-FARM WORK DURING 1985						
<p>193. Did you work off this holding in 1985?</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>YES <input type="text" value="309"/> <input type="text" value="1"/></p> <p>NO <input type="text" value="309"/> <input type="text" value="2"/></p> </div> <div> <p>Answer Question 194</p> </div> </div> <ul style="list-style-type: none"> • Convert part days to full days on the basis of an 8 hour day For example: 2 days of 4 hours is equal to 1 day 	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center; padding: 2px;">Days</th> </tr> <tr> <td style="text-align: center; padding: 2px;">310</td> </tr> <tr> <td style="text-align: center; padding: 2px;">311</td> </tr> </table>	Days	310	311		
Days						
310						
311						
<p>194. How many days did you (the operator) work off this holding at:</p> <p>(a) paid agricultural work?</p> <p>(b) paid non-agricultural work?</p>						
COMMENTS						
<div style="display: flex; justify-content: flex-end;"> <table border="1" style="border-collapse: collapse;"> <tr> <td style="width: 40px; text-align: center;">502</td> <td style="width: 40px; text-align: center;">1</td> </tr> </table> </div>				502	1	
502	1					

REASONS WHY QUESTIONS ARE ASKED

The Census of Agriculture is conducted once every five years and to be successful requires the participation of all farm operators.

Surveys and administrative records do provide some information regarding Canadian agriculture but it is the Census of Agriculture that provides statistical information on all farms on a consistent basis across Canada.

The following material explains the reasons for asking specific questions. However, it should be noted that each question in conjunction with others enables one to ascertain the importance and well-being of Canadian agriculture in relation to the total economy and to evaluate the impact of agricultural policies and programs.

An individual farmer's completed questionnaire is not made available to anyone except persons sworn to secrecy under the Statistics Act; however, the information provided will be combined with that of other farms and will be published.

Section I, Question 1 - Operator

Correct names and addresses are required to ensure that all farms are included and to avoid duplication.

Section II, Question 2 - Residence

This question identifies whether the farm operator lives on the holding. Data are used in conjunction with Census of Population data to enable social and economic comparison between rural farm, rural non-farm and urban populations.

Section II, Question 3 - Operation of Holding One Year Ago

This is principally an office-use question used to explain figures reported by new farm operators in response to questions that refer to the previous year.

Section III, Question 4 - Type of Organization

This information is used to categorize Canadian farms according to their business organization (e.g. individual farm, corporation). It is needed by departments of agriculture, farm organizations and others for analysis of the structure of the farming industry in Canada (e.g. is the number of corporate farms increasing?). Corporate names and names of partners are used to identify and correct situations where duplicate questionnaires are received for the same holding.

Section III, Question 5 - Land Area Units (acres, hectares, arpents)

This question gives the respondent a choice in the unit of land measure to be used in completing the questionnaire.

Section IV, Questions 6 to 9 - Location: Area Owned, Rented or Leased

These are principally office-use questions used to ensure complete farmland coverage by the Census and the correct identification of the farm headquarters. The split between "leased from governments" and "rented or leased from sources other than governments" ensures that all lands rented or leased are included.

Sections V and VI, Questions 10 to 97 - Area of Field Crops and Horticultural Products

Information on crop areas provides estimates of the total area of the various crops for Canada, the provinces and sub-provincial areas once every five years. The Census data provide the basis for making annual estimates of crop production. This information is essential for estimating agricultural production available for both the domestic and international markets and is used by organizations that are involved in marketing.

The Census is the key source for accurate estimates of infrequently occurring crops such as millet and triticale. The distinctions between "bearing" versus "non-bearing" trees and "area under cultivation" versus "area harvested or to be harvested" for berries, grapes and asparagus are required to forecast future production.

Section VII, Questions 98 to 105 - Summary of Land

The various breakdowns (e.g. improved land, unimproved land) provide an indication of land utilization. This information is important for government departments and farm organizations in comparing trends in land use patterns across Canada and over time.

Section VIII, Questions 106 to 109 - Greenhouses and Mushroom Houses

Production area estimates for greenhouse products and mushrooms are used by the public sector and by farm associations to monitor changes in capacity and supply.

Sections IX and X, Questions 110 to 149 - Poultry and Livestock

Questions on the number, type and age of livestock and poultry provide essential information for estimating inventories, production and future supplies of animals and animal products for domestic consumption and export. The Census provides the basic building block from which annual estimates are made. The information is vital for international negotiations on trade and for the efficient operation of the domestic market. This information is often used directly by farmers to make production and marketing decisions and in the form of market analysis and agricultural outlooks provided by government departments, private firms and the farm media. Age and weight breakdowns are used to distinguish between present and future production.

Questions 129, 135 and 141 (purebred registered animals) are included in the Census because of the importance of the export market for high quality Canadian livestock.

The question on the number of horses, goats, rabbits and other specialty livestock on farms provides specialty livestock producers with basic information about their sector.

Sections XI to XIV, Questions 150 to 159 - Fertilizer, Spraying and Dusting, Irrigation and Subsurfaces Drainage (Tile)

This information is used to measure the impact of these practices on agricultural production.

Section XV, Questions 160 to 171 - Farm Vehicles, Machinery and Equipment

The present market value of machinery enables policy analysts, farm organizations, universities, and others to study trends in farm capital requirements and return on investment. The type and number of farm machines is used to study mechanization trends (e.g. the change from two wheel drive to four wheel drive tractors). Machinery companies use the information to plan the location of service centres, while government departments study fuel use and calculate farm energy requirements to ensure adequate future supplies.

Section XV, Question 172 - Computers

This question will be used to determine if business computers are becoming important in farm management. Farm computerization could have a bearing in the future on the method of delivering information and extension services to farmers.

Section XVI, Question 173 - Market Value of Land and Buildings

The value of farm land and buildings provides a means of monitoring changes in values and is used to study the capital costs of farm operations.

Section XVII, Questions 174 to 185 - Farm Business Expenses

Expenditure questions are used to monitor trends in farm operating costs. The data, together with information on farm incomes, provide measures of the economic well-being of the farm sector and serve as a basis for formulating and evaluating stabilization programs.

Section XVII, Question 186 - Livestock Expenses Paid by Contract Firms

This is principally an office-use question used to explain cases where livestock are reported on the questionnaire but no corresponding livestock expenses are reported.

Section XVIII, Questions 187 and 188 - Hired Agricultural Labour

Data on hired labour are used by agricultural and manpower researchers and administrators for estimating and evaluating labour requirements and for planning training programs.

Section XIX, Questions 189 to 191 - Forest Products and Maple Tappings

These questions measure the value of forest products and number of maple tappings in Canada. Data are used, primarily by provincial departments, as a basis for making annual estimates of production.

Section XX, Question 192 - Value of Agricultural Products Sold

This question provides a means of grouping farms of similar economic size for publication purposes (e.g. all farms with sales under \$10,000, \$10,000 to \$25,000, etc.).

This information also allows government departments, farm organizations, universities and other researchers to study the distribution of farm income in Canada by geographic area (e.g. province, municipality or county).

Section XXI, Questions 193 and 194 - Off-Farm Work

This question makes it possible to identify the number of part-time and full-time farmers and to measure the impact on agricultural production.

APPENDIX E. PRODUCTS AND SERVICES FROM THE 1986 CENSUS

The 1986 Output Program consisted of two parts, census products and census services. A product is defined as a publication, a machine-readable table and profile, a map or a computerized file which is predetermined and can be made available to a client without delay. A service, on the other hand, permits the client to obtain, on request only, a product specially designed to meet the client's needs (within the constraints of confidentiality). A brief account of these products and services and the pricing policy follows. A detailed account can be found in the **1986 Census Products and Services, Final Edition** (Catalogue No. 99-103E). Further information and acquisition is possible at the STC Regional Reference Centres or the appropriate User Services, STC, Ottawa.

I. Census Products

I.1 Publications

Results of the 1986 Census of Population began appearing in printed format in August 1987. The approximately 100 publications were divided into four main groups, which were, in turn, divided into nine series, illustrated in the chart below. With the exception of analytical publications that were the responsibility of the Research and Analysis Project, all publications were produced by the Output Project. The content of the individual texts was written by the respective subject-matter specialists.

It should be noted that the majority of the covers of census publications are colour coded to identify the themes central to the presentation: orange for population and dwelling counts, red for population and dwelling characteristics, yellow for profiles, blue-green for geographic products, and blue for reference products. Publications containing 2B data were colour coded a lighter shade than their 2A counterpart.

Groups	Series
Population and dwelling counts publications	<ul style="list-style-type: none"> - Population - Place Name Reference Lists
Population and dwelling characteristics	<ul style="list-style-type: none"> - The Nation - Dimensions - Profiles

Analytical publications	<ul style="list-style-type: none"> - Metropolitan Atlas - Focus on Canada
General and geographic reference publications	<ul style="list-style-type: none"> - Reference (General) - Reference: Geographic

POPULATION AND DWELLING COUNTS PUBLICATIONS

The Population and Dwelling Counts publications provide basic 1986 counts for all standard geographic areas. Measures of change since 1981 are frequently given as well.

A total of 20 publications are available in two series: Population and Place Name Reference Lists.

A. Population

These 17 publications provide final, unrounded population and dwelling counts. Five publications (one for each type of selected standard geographic area) provide counts for Canada. The remaining 12 publications, one per province or territory, list counts by various standard geographic levels within the province or territory.

B. Place Name Reference Lists

These three publications alphabetically list place names in provinces and territories. Census level (CD, CSD, UP, etc.) is given along with counts, the Standard Geographic Classification code, longitude, latitude and information on relevant census maps.

POPULATION AND DWELLING CHARACTERISTICS PUBLICATIONS

These publications present a wide range of census data by variable, selected topics and standard geographic areas.

The **Nation Series** (19 publications) presents data for most census variables. These cross-tabulations illustrate the analytical potential of the census. Some tables include comparisons with previous census data.

Dimensions publications (seven in total) focus on subjects that many census clients have expressed interest in. The presentation varies from a summary of data to detailed breakdowns and cross-tabulations. Geographic levels also vary: some tables show national data, others examine census metropolitan areas.

The **Profiles** (107 volumes) look at a range of variables in limited detail for standard geographic areas. Percentages and rates are given, but not cross-tabulations. Variables covered include:

- demography
- mobility
- ethno-cultural characteristics
- language
- schooling
- labour force characteristics
- income
- families
- households
- dwellings

Separate profiles are published for 100% data and the 20% sample data.

ANALYTICAL PUBLICATIONS

The Metropolitan Atlas Series and the Focus on Canada Series present analysis of census data in two forms: thematic maps and analytical texts.

A. Metropolitan Atlas

These 12 publications cover Canada's major census metropolitan areas and combine maps, graphs and text to present 1986 Census data in a concise format. Key demographic, housing, social and economic information emphasizes important characteristics of metropolitan areas. Maps summarize pin-point areas of concentration, facilitate comparisons and reveal changing patterns.

B. Focus on Canada

The Focus on Canada Series consists of 16 descriptive studies that cover many of the broad

census subjects -- demography, schooling, ethno-cultural and labour force characteristics income and housing. Data from the 1986 Census and, where possible, from past censuses are presented in simple tables and charts.

GENERAL AND GEOGRAPHIC REFERENCE PUBLICATIONS

These publications help data users understand census concepts, products and services.

A. Reference (General)

(i) 1986 Census Dictionary

Defines all major census variables and terms, including the geographic terms, and discusses historical comparability of census data.

(ii) 1986 Census Products and Services - Preliminary Edition

Gives full details of products and services from the 100% data base and an outline of products and services from the 20% sample data base, along with price and ordering information.

(iii) 1986 Census Products and Services - Final Edition

Gives full details of products and services from the 100% data base and the 20% sample data base, along with price and ordering information. This version replaces the Preliminary Edition.

(iv) 1986 Census Reference Paper Series

These papers provide detailed background information on census-related topics. They will be of interest to major data users and to intermediaries such as librarians, Statistics Canada's regional reference

centres, user advisory staff, and universities. The following list of topics will be expanded gradually as needs are identified:

- CMAs/CAs: A 1986-1981 Comparison
- 1986 Census Geography: A Historical Comparison

(v) 1986 Census Handbook

The 1986 Census Handbook draws together census information from many sources and is a convenient "first stop" for both new and experienced data users. Readers will find here a brief history of census-taking, a question-by-question outline of the 1986 Census, an explanation of how the variables derived from the census questions can be used, and an introduction to the geography of the census. Included is information about how the latest census differs from its predecessors, and about what new products and services are available.

B. Geographic Reference

The following 13 publications make it easier to use census data. They are reference tools rather than data sources.

(i) Maps

Two publications, national in scope, contain reference maps for CDs, CSDs, CMAs and CAs. These maps are also available unbound and are included in data publications where appropriate.

(ii) Enumeration Area Reference Lists

This series of 10 publications links EAs to higher census geographic levels.

(iii) Equivalent Enumeration Areas, 1986 and 1981

This publication shows geographically equivalent enumeration areas for 1981 and 1986 by FED.

1.2 Machine-readable Tables and Profiles

There are two types of machine-readable products: Basic Summary Tables and Profiles.

A. Basic Summary Tables

The basic summary tables are 43 cross-classifications of two and three variables for small geographic areas. The content of the tables reflects the most frequent needs of small area data users, as identified through consultation and analysis of demand for 1981 Census products. The tables are available upon request on magnetic tape, in printed form or on diskette.

Basic summary tables are produced for:

- enumeration areas (EAs) and federal electoral districts (FEDs);
- census subdivisions (CSDs) and census divisions (CDs);
- census tracts (CTs), census metropolitan areas (CMAs), tracted census agglomerations (CAs) and provincial census tracts (PCTs).

B. Profiles

Profiles provide indicators that can easily be compared across geographic areas or subpopulations. Data on the major categories of the census are presented as counts, rates and averages. Profiles are particularly suited for basic data analysis such as comparisons and mapping. Two profile series are available, one for 100% data and one for 20% sample data. The data presented on magnetic tape are the same as that found in published profiles. Diskettes are also available.

Machine-readable profiles are available for the following standard areas:

- CDs and CSDs • FEDs
- CMAs and CAs • EAs
- census-tracted centres (CTs and component subdivisions).

1.3

Maps

These maps permit users to relate statistical data to corresponding geographic areas. They are presented in two main series:

A. Published Maps

Small-scale reference maps of the different kinds of geostatistical areas - excluding enumeration areas - are included in certain publications.

B. Individual Reference Map Sheets

Eight series of larger reference maps (called the "G86" series) are available at various levels of detail on ozalid paper, intermediate film and ozopaque film for all geostatistical areas of the 1986 Census.

1.4

Computerized Geographic Files

These files allow users to manipulate geographic data with computer systems both in batch and interactively. Eight files are available:

A. Geography Tape File

This file assigns to each enumeration area (the basic unit of census data collection) all higher geographic levels by codes and names. It includes all standard geographic codes, and also locates each enumeration area centroid according to Universal Transverse Mercator (UTM) co-ordinates and Lambert co-ordinates, as well as by latitude and longitude. Final 1986 population counts and occupied private dwelling counts for all enumeration areas are also presented.

B. Place Name Master File

This file lists census divisions, census subdivisions and all unincorporated places for which 1986 population was reported. Information includes Standard Geographical Classification codes, census codes, type of place, location in latitude and longitude, census map number and population. For unincorporated places, a breakdown of population by enumeration area is also given.

C. Postal Code Geographic Conversion File

Postal codes in Canada are linked to the census geographic hierarchy, including Universal Transverse Mercator (UTM) co-ordinates and latitude/longitude co-ordinates.

Information is normally supplied on tape, but for smaller areas, files can be supplied on diskette or paper copy.

D. Area Master File

The Area Master File (AMF) contains representations of all city streets and other features (such as railroad tracks, rivers and municipal boundaries) in machine-readable form. The AMF geographically references every street, address range, block-face and centroid co-ordinate in the coverage area. AMF is available mainly for urban centres with a population of 50,000 or more.

E. Attribute File

The Attribute File consists of lists of various geographic areas and their Standard Geographical Classification code, the 1981 population adjusted to 1986 boundaries and the 1986 final population, the 1986 land area and the National Topographic System (NTS) map number.

F. Block-face Data Linkage File

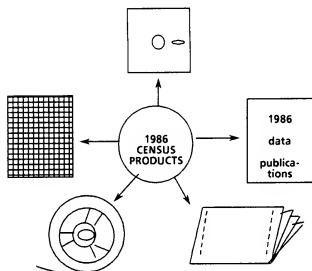
The Block-face Data Linkage File (BFDLF) relates each block-face to the Standard Geographical Classification and also provides population and dwelling counts.

G. Boundary File

This file consists of basic area identification and lists of co-ordinates to create a polygon representing the particular geographic area. It is available for selected geographic areas such as census metropolitan areas, census agglomerations, provincial census tracts and urban areas.

H. Cartographic Boundary File (CARTLIB)

CARTLIBs are digital cartographic libraries of the boundaries of various geostatistical areas, e.g., federal electoral district, census division, census consolidated subdivision, census subdivision, census tract. They are stored on magnetic tape and, with appropriate software, can be used to map data. Custom CARTLIB products are available for these and other coverages such as forward sortation areas, in formats suitable for several different mapping programs.



2. 1986 Census Services

Data users' needs have grown more complex in recent years. STC has offered a greater range of census services. This section covers the services offered to data users, including:

- Custom Data Products Service;
- Geography Information Services;
- Geocartographics Services.

2.1. Custom Data Products Service

A large number of users are now undertaking detailed analysis of census results on machine-readable media. This has resulted in the development of a greater range of census products and services. For example, users can choose to specify their exact data requirement as "custom" tabulations. Or they may choose from a selection of "semi-custom" products designed to meet their needs as closely as possible, while keeping cost and delivery time down.

A. Semi-custom Products

The semi-custom products have been developed to meet the needs of users who require basic data tabulations for specialized geographic areas or output media.

There are two main components of the Semi-custom Service: cross-tabulations and profiles.

(i) Cross-tabulations

These cross-tabulations of two or three census variables can be produced for geographic areas defined by the user. They reflect demand for 1981 Census data and ongoing consultation with users. They cover all of the Basic Summary Cross-tabulations, any published tables suitable for small geographic areas, plus other tables specially designed for the cross-tabulation service. The list of available tabulations will continue to evolve as new data needs and issues are identified. Tabulations are available on computer print-outs, specially formatted print output, magnetic tape and microfiche.

(ii) Profiles

Data are presented as counts, rates and averages which can easily be compared across geographic areas or population groups.

Profiles can be produced on paper or magnetic tape from the 100% data base or the 20% sample base for geocoded areas and aggregations of the standard census areas.

B. Custom Products

A custom product is any tabulation of census microdata not available through other products or services. Custom products can be produced from the 1971, 1976, 1981 and 1986 Census microdata bases.

Statistics Canada consultants help individual clients determine content, geography and output medium, which can be computer print-out, specially formatted print-out, magnetic tape or microfiche. Custom products can be produced for geocoded areas as well as for all the census geographic areas previously listed.

2.2 Geography Information Services

The Geography Division of Statistics Canada offers a variety of services as listed below.

A. Geocoding

The Geographically Referenced Data Storage and Retrieval System (GRDSR), or Geocoding System, is used to code and store census data.

Geographic co-ordinates (centroids) are assigned to the population centre of every enumeration area (EA) in Canada and each block-face in most large urban areas. Data for that EA or block-face will be included or excluded depending on whether the centroid is inside or outside the area of interest to the user.

B. Special Population Compilations

Population compilations may be produced based on the current census and from previous censuses. Population counts are based on compilations from census collection documents.

C. Special Analysis/User Consultation and Systems Development

Users can obtain assistance in defining custom geographic products and systems or in making better use of existing products and services.

D. Map Library

The Geography Division's Map Library contains all maps used by census collection personnel (Census Representatives) from the 1971 Census onward. Division personnel can reproduce these maps at the same size, as enlargements or reductions.

E. Customized Street Index File

A cross-referenced street index file of address ranges for user-defined areas can be produced from the Area Master File.

F. Node Maps/AMF Street Network

These maps, available for all areas covered by the AMF, show street patterns in detail, including names, as well as other features such as railroad tracks, rivers, municipal boundaries and all nodes (where streets and other features intersect).

2.3

Geocartographics Services

The Geocartographics Sub-Division of Statistics Canada offers a variety of services as listed below.

A. Customized Maps and Atlases

Customized maps and atlases (statistical or reference) for national, regional, provincial and urban areas can be produced for regions defined by standard census geography, postal codes, or client-supplied specifications, on paper, mylar, film, transparency or slide.

B. Customized Cartographic Files

A range of cartographic files for standard and non-standard census geography in user-specified coordinate systems and formats suitable for use with various mapping systems (including SAS/GRAPH, ATLAS, GIMMS and ARC/INFO) are available. Included among others are provinces, federal electoral districts, census divisions, census subdivisions, census tracts and forward sortation areas. Data are available on tape or diskette.

C. Cartographic Consultation and Training

Consultation and training are available on automated mapping packages, geographic information systems, geographic data bases, and microcomputer-based statistical mapping. Standard training courses are available on geographic information systems, census cartography, the GIMMS mapping package, and the TELL-A-GRAF graphics package.

APPENDIX F. ACCESS THROUGH REGIONAL REFERENCE CENTRES

Statistics Canada's regional reference centres provide a full range of census products and services. Each reference centre is equipped with a library and a sales counter where users can consult or purchase census publications, microcomputer diskettes, microfiche, maps and more. Each centre has facilities to retrieve information from Statistics Canada's computerized data retrieval systems - CANSIM and TELICHART. A telephone inquiry service is also available with toll-free numbers for regional clients outside local calling areas. Many other services - from seminars to consultations - are offered.

NEWFOUNDLAND AND LABRADOR

Advisory Services
Statistics Canada
3rd Floor, Viking Building
Crosbie Road
St. John's, Newfoundland A1B 3P2
Local calls: 709-772-4073
Toll-free service: 1-800-563-4255

MARITIME PROVINCES

Advisory Services
Statistics Canada
North American Life Centre
1770 Market Street
Halifax, Nova Scotia B3J 3M3
Local calls: 902-426-5331
Toll-free service: 1-800-565-7192

QUEBEC

Advisory Services
Statistics Canada
Guy Favreau Complex
200 René Lévesque Blvd. W.
Suite 412, East Tower
Montréal, Quebec H2Z 1X4
Local calls: 514-283-5725
Toll-free service: 1-800-361-2831

NATIONAL CAPITAL REGION

Statistical Reference Centre (NCR)
Statistics Canada
Lobby, R.H. Coats Building
Tunney's Pasture
Ottawa, Ontario K1A 0T6
Local calls: 613-951-8116
If outside the local calling area, please dial the toll-free number for your province.

ONTARIO

Advisory Services
Statistics Canada
10th Floor, Arthur Meighen Building
25 St. Clair Avenue East
Toronto, Ontario M4T 1M4
Local calls: 416-973-6586
Toll-free service: 1-800-268-1151

NIPISSING REGION

Advisory Services
Statistics Canada
Civic Administration Centre
225 Holditch Street
Sturgeon Falls, Ontario P0H 2G0

Local calls: 705-753-3200

If outside the local calling area, please dial the toll-free number given above for Ontario residents.

MANITOBA

Advisory Services
Statistics Canada
6th Floor, General Post Office Building
266 Graham Avenue
Winnipeg, Manitoba R3C 0K4
Local calls: 204-983-4020
Toll-free service: 1-800-542-3404

SASKATCHEWAN

Advisory Services
Statistics Canada
9th Floor, Avord Tower
2002 Victoria Avenue
Regina, Saskatchewan S4P 0R7
Local calls: 306-780-5405
Toll-free service: 1-800-667-7164

ALBERTA AND NORTHWEST TERRITORIES

Advisory Services
Statistics Canada
8th Floor, Park Square
10001 Bellamy Hill
Edmonton, Alberta T5J 3B6
Local calls: 403-495-3027
Toll-free service: 1-800-282-3907
N.W.T. call collect: 403-495-3028

SOUTHERN ALBERTA (CALGARY)

Advisory Services
Statistics Canada
Box 2390, Station M
Room 245
220 Fourth Avenue South East
Calgary, Alberta T2P 3C1
Local calls: 403-292-6717
Toll-free service: 1-800-472-9708

BRITISH COLUMBIA AND YUKON

Advisory Services
Statistics Canada
3rd Floor, Federal Building
Sinclair Centre, Suite 440F
757 West Hastings Street
Vancouver, British Columbia V6C 3C9
Local calls: 604-666-3691
Toll-free service:
(except Atlin, B.C.) 1-800-663-1551
Yukon and Atlin, B.C.: Zenith 08913

APPENDIX G. DEPOSITORY LIBRARIES ADDRESSES

Users who want to consult Statistics Canada publications may do so at any of the 53 libraries across Canada and in other countries that carry all Statistics Canada publications. The following is a list of Full Depository Libraries, which automatically receive all federal government publications free of charge.

Memorial University of Nfld.
St. John's, NF
A1B 3Y1

Planning Library
Charlottetown, PE
C1A 7N8

Acadia University
Wolfville, NS
B0P 1X0

Dalhousie University
Killam Memorial Library
Studley Campus
Halifax, NS
B3H 4H8

Legislative Library of New Brunswick
Legislation Building
Box 6000
Fredericton, NB
E3B 5H1

Mount Allison University
Government Documents
Ralph Pickard Bell Library
Sackville, NB
E0A 3C0

Université de Moncton
Bibliothèque Champlain
Publications gouvernementales
Moncton, NB
E1A 3E9

University of New Brunswick
Harriet Irving Library
Government Documents Dept.
Box 7500
Fredericton, NB
E3B 5H5

Université du Québec à Montréal
Bibliothèque centrale
C.P. 8889, Succursale A
Montréal, Qc
H3C 3P3

Assemblée Nationale du Québec
Serv. des doc. off. canadiens
Édifice Pamphile - Lemay
Québec, Qc
G1A 1A5

Bibliothèque municipale de Montréal
Succursale centrale
1210, rue Sherbrooke Est
Montréal, Qc
H2L 1L9

Centrale des bibliothèques
1685, rue Fleury Est
Montréal, Qc
H2C 1T1

Concordia University
Library Acquisitions Serials
1455 de Maisonneuve Blvd. W.
Montréal, Qc
H3G 1M8

McGill University Library
Gov't Doc. Dept.
3459 McTavish St.
Montréal, Qc
H3A 1Y1

Université de Montréal
Bibliothèque des sciences humaines
et sociales
C.P. 6202, Succursale A
Montréal, Qc
H3C 3T2

Université de Sherbrooke
Bibliothèque générale
Publications gouvernementales
2500, boul. Université
Sherbrooke, Qc
J1K 2R1

Ontario Legislative Library
Gov't Publications Section
Tech. Services & Systems
180 Bloor St. W., 5th Floor
Toronto, ON
M5S 1A5

Université Laval
SVC Documents officiels
Cité Universitaire
Ste-Foy, Qc
G1K 7P4

Hamilton Public Library
55 York Boulevard
Hamilton, ON
L8R 3K1

Lakehead University
Chancellor Paterson Library
Government Documents
Oliver Road
Thunder Bay, ON
P7B 5E1

Laurentian University Library
Public Documents Dept.
Sudbury, ON
P3E 2C6

Library of Parliament
Official Publ. Section
Ottawa, ON
K1A 0A9

McMaster University
Documents Dept. Library
Mills Memorial Library
Hamilton, ON
L8S 4L6

Metro Toronto Library Board
Order Gov't Documents
789 Yonge Street
Toronto, ON
M4W 2G8

National Library of Canada
Publications Section
395 Wellington St.
Ottawa, ON
K1A 0N4

Windsor Public Library
Government Documents Section
850 Ouellette Avenue
Windsor, ON
N9A 4M9

Queen's University
Documents Library
MacKintosh Corry Hall
Kingston, ON
K7L 3N6

Statistics Canada Library Services
RH Coats Bldg., 2-0
Tunney's Pasture,
Ottawa, ON
K1A 0T6

Thunder Bay Public Library
Brodie Resource Centre
Reference Department
216 S. Brodie Street South
Thunder Bay, ON
P7E 1C2

University of Guelph
Documentation & Media Res. Ctr.
Guelph, ON
N1G 2W1

University of Ottawa
Morisset Library
65 Haste St.
Ottawa, ON
K1N 9A5

University of Toronto
Serials Dept.
Toronto, ON
M5S 1A5

University of Waterloo
Dana Porter Arts Library
Government Publications
Waterloo, ON
N2L 3G1

University of Western Ontario
D.B. Weldon Library
Government Publications
London, ON
N6A 3K7

University of Calgary
Library Gov't Pubs.
2500 University Dr. N.W.
Calgary, AB
T2N 1N4

York University
Admin. Studies Bldg.
Document Services
Downsview, ON
M3J 2R6

Manitoba Legislative Library
Government Documents Division
200 Vaughan St.
Winnipeg, MB
R3C 0P8

University of Manitoba
Elizabeth Dafoe Library
Government Pub. Section
Winnipeg, MB
R3T 2N2

Legislative Library
Legislative Bldg., Room 234
Regina, SK
S4S 0B3

University of Saskatchewan Library
Gov't Pubs. Sect.
Saskatoon, SK
S7N 0W0

Alberta Legislature Library
Documents Section
Legislature Bldg., Room 216
Edmonton, AB
T5K 2B6

Edmonton Public Library
Acquisitions Division
7 Sir W. Churchill Sq.
Edmonton, AB
T5J 2V4

University of Alberta
Library Gov't Publications
Edmonton, AB
T6G 2J8

B.C. Prov. Sec. & Gov't Svcs. Min.
Legislative Library
Parliament Buildings
Victoria, BC
V8V 1X4

Simon Fraser University Library
Acquisitions Div. Serials
Burnaby, BC
V5A 1S6

University of British Columbia
Main Library
1956 Main Mall
Vancouver, BC
V6T 1Y3

University of Victoria
Serials Division
McPherson Library
P.O. Box 1800
Victoria, BC
V8W 3H5

Vancouver Public Library
Government Document Acq.
750 Burrard Street
Vancouver, BC
V6Z 1X5

Northwest Territories
Government Library
Laing Bldg., 1st Floor
Box 1320
NT
X1A 2L9

APPENDIX H. CONFIDENTIALITY AND RANDOM ROUNDING

The data shown in publications have been subjected to a confidentiality procedure known as "**random rounding**" to prevent the possibility of associating small figures with any identifiable individual. Under this method, all figures including totals are randomly rounded (either up or down) to a multiple of "5". This technique provides strong protection against direct, residual or negative disclosures without adding significant error to the census data. However, since totals are independently rounded, they do not necessarily equal the sum of individual rounded figures in distributions. Also, minor differences can be expected for corresponding totals and cell values in various census tabulations. Similarly, percentages, which are calculated on rounded figures, do not necessarily add to 100. Percentage distributions and rates for the most part are based on rounded data, while percentage changes and averages are based on unrounded data.

Of concern to some users is that small cell counts may suffer a significant distortion as a result of random rounding. This distortion is the protection against disclosure and individual data cells containing these small numbers may lose their precision as a result. Since the rounding is of a random nature, however, when data cells are re-aggregated by the user, the rounding errors tend to cancel out. Distortions may be further reduced by building in the appropriate subtotals into tabulations. Also available is the option of requesting custom tabulations from the census microdata bases. With custom products, random rounding occurs after data cells have been aggregated thus minimizing any distortion.

In addition to random rounding, procedures such as **area and cell suppression** have been adopted to further protect the confidentiality of individual responses.

With **area suppression**, all characteristic data for the geographic area are deleted and replaced with the symbol (XXX). The extent to which data are suppressed depends upon whether the area is a standard geographic area, i.e. aggregated from enumeration areas (federal electoral districts, census divisions, census subdivisions, census tracts, etc.) or a non-standard area specified by the user for a custom tabulation. Data are deleted if the population is less than 40 persons for standard areas and less than 100 persons for non-standard areas. For tables involving income distributions, the suppression of data is extended to geographic

areas with a total population of less than 250. Suppressed data are, however, included in the appropriate higher aggregate subtotals and totals. This technique is being implemented for all products involving subprovincial data (i.e. Profile series, basic summary data products, semi-custom and custom data products) collected on a 100% or 20% sample basis.

Note: For data collected on a 20% sample basis, area suppression is based on the non-institutional population rather than the total population since sample data were not collected for the institutional population.

With **cell suppression**, the minimum acceptable value for a cell is specified. All cell values below the designated cut-off are deleted and replaced by the symbol (XXX). However, the suppressed data are included in the appropriate higher aggregate subtotals and totals. For 1986 data products, two different methods of cell suppression are being implemented. For publications in "The Nation" and "Dimensions" series involving income, detailed occupation or detailed industry, the distribution is being suppressed where less than 250 persons or units are involved. In semi-custom and custom tabulations of variables collected on a sample basis, all cells with a value of "5" (after random rounding) are being suppressed.

APPENDIX I. LIST OF ABBREVIATIONS

A

AMF Area Master File
AR Agricultural Region
ARFOM Assistant Regional Field Operations Manager

B

BFDLF Block-face Data Linkage File
BOR Borough

C

C City
CA Census Agglomeration
CAM Census Area Manager
CARTLIB The Digital Cartographic Libraries of the Boundaries and Related Features of Various Geostatistical Area used by computer mapping programs
CC Census Commissioner
CCD Census Commissioner District
CCS Census Consolidated Subdivision
CCSIS Community College Student Information System
CD Census Division
CDM Census District Manager
CGMF Census Geographic Master File
CHDS Canadian Health and Disability Survey
CM County (Municipality)
CMA Census Metropolitan Area
CMHC Canada Mortgage and Housing Corporation
COM Community
CR Census Representative
CSD Census Subdivision
CT Census Tract

D

DA Data Assimilation
DDE Direct Data Entry
DM District Municipality
DS (form) Disability Survey Sample form

E

EA Enumeration Area
EDDD Electronic Data Dissemination Division
E & I Edit and Imputation
EIC Employment and Immigration Canada
EMR Energy, Mines and Resources

F

FED Federal Electoral District
FOS Financial Organization Structure
FRC Finance Responsibility Centre

G

GRDSR Geographically Referenced Data Storage and Retrieval System or Geocoding System

H

HAM Hamlet
HH Household
HOP Head Office Processing
HWC Health and Welfare Canada

I

(RCT) ICS Inventory Control Supervisor
ID Improvement District
INAC Indian and Northern Affairs Canada

L

LGD Local Government District
LOT Township and Royalty

M

M "Marginal" or "seasonal" dwelling
MD Municipal District
MIS Management Information System
MOSST Ministry of State for Science and Technology
MYOP Multi-year Operational Plan or Long-term Planning

N

NFS National Farm Survey
NH Northern Hamlet
NTS National Topographic System map number
NV Northern Village

O

OE Original Entry

P

PAR Parish
PCA Primary Census Agglomeration
PCMA Primary Census Metropolitan Area
PCP Public Communications Program
PCT Provincial Census Tract
PMS Project Management Structure
PP Person
Prov Province
PSA Public Service Announcement
PUMF Public Use Microdata File
PUST Public Use Sample Tape

Q

QAL Query Area Library
QC Quality Control
QCT Quality Control Technician

R

R Indian Reserve
RAPID Relational Access Processor for Integrated Data Base
RCO Regional Census Office
RCT Revenue Canada Taxation
RD Regional Director
RFOM Regional Field Operations Manager
RIE Regional Industrial Expansion
RM Rural Municipality
RRC Reverse Record Check
RO Regional Office
ROP Regional Office Processing
RV Resort Village

S

SA Special Area
SAS Statistical Analysis System
SCM Subdivision of County Municipality
S-E Indian Settlement
SET Settlement
SPIDER System for Processing Instructions from Directly Entered Requirements
SRD Subdivision of Regional District
SS Secretary of State
STC Statistics Canada
STM Sub-task Managers
SUN Subdivision of Unorganized
SV Summer Village

T

T Town
TARELA Tabulation REquest LANGUAGE
TAS Telephone Assistance Service
TD Type of Dwelling
TDD/TTY Telecommunication Devices for the Deaf/Teletype machines
TM Task Managers
TP Township

U

UA Urban Area
UD Unoccupied Dwelling
UNO Unorganized
UP Unincorporated Place
USIS University Student Information System
UTM Universal Transverse Mercator

V

VC Village Cri
VK Village Naskapi
VL Village
VN Village Nordique
VR Visitation Record

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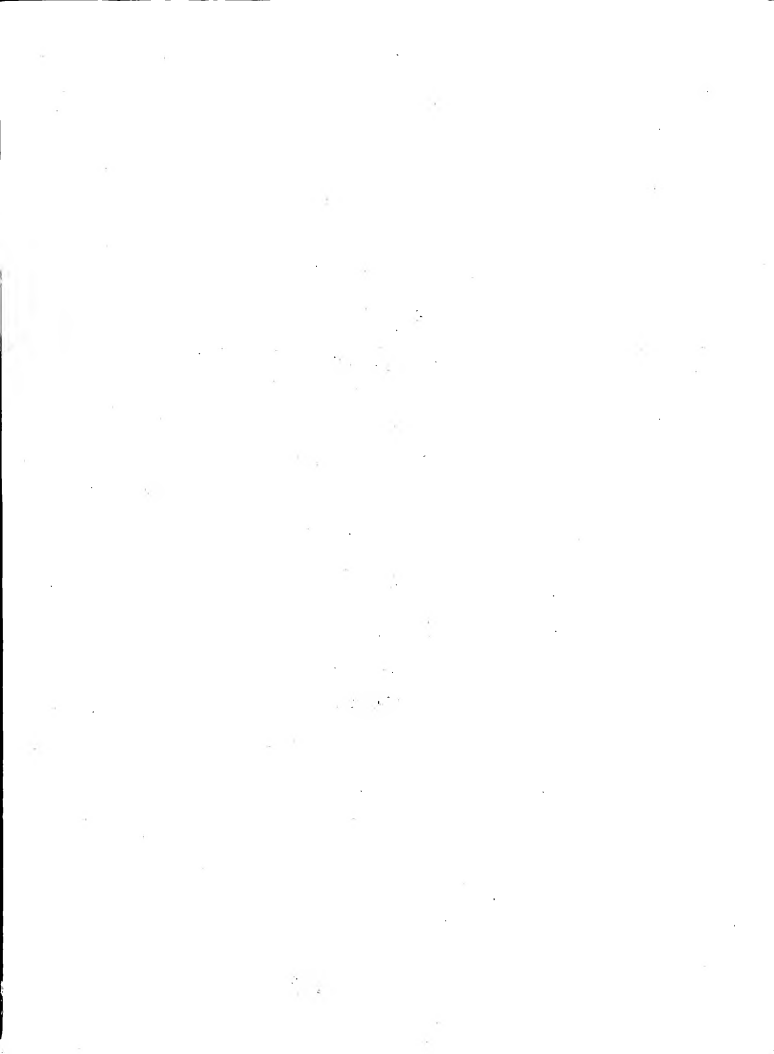
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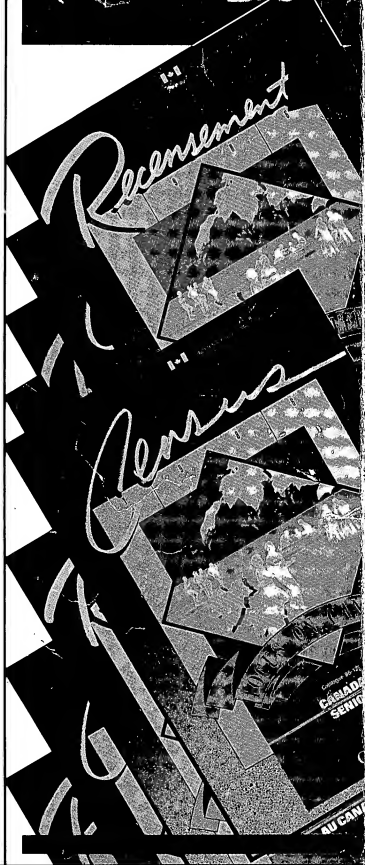


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